XR-1780

SERVICE MANUAL

E Model

Model Name Using Similar Mechanism	XR-1790
Tape Transport Mechanism Type	MG-36SZ9-32

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to- noise ratio	55 dB

Tuner section

FM

Tuning range	FM Tuning interval: 50kHz/200kHz switchable 87.5 – 108.0 MHz (at 50kHz step) 87.5 – 107.9 MHz (at 200kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW/SW

Tuning range	MW Tuning interval: 9kHz/10kHz switchable 531 – 1,602 kHz (at 9kHz step) 530 – 1,710 kHz (at 10kHz step) SW tuning interval: SW1: 2,940 – 7,735 kHz SW2: 9,500 – 18,135 kHz (except for 10,140 – 11,575 kHz)
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz /450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Output lead	Power aerial relay control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 186 × 57 × 176 mm (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 163 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

FM/MW/SW CASSETTE CAR STEREO

MICROFILM

SONY®

TABLE OF CONTENTS

1. GENERAL

Location of Controls 3
Setting the Clock 3
Installation 4
Connections 6

2. DISASSEMBLY 8

3. MECHANICAL ADJUSTMENTS 12

4. ELECTRICAL ADJUSTMENTS

Tape Deck Section 12
Tuner Section 13

5. DIAGRAMS

5-1. Notes for Printed Wiring Board and Schematic Diagram 16
5-2. Printed Wiring Board – MAIN Board – 17
5-3. Schematic Diagram – MAIN Board (1/2) – 19
5-4. Schematic Diagram – MAIN Board (2/2) – 21
5-5. Printed Wiring Board – CONTROL Board – 23
5-6. Schematic Diagram – CONTROL Board – 23
5-7. IC Pin Function Description 26

6. EXPLODED VIEWS 28

7. ELECTRICAL PARTS LIST 34

Flexible Circuit Board Repairing

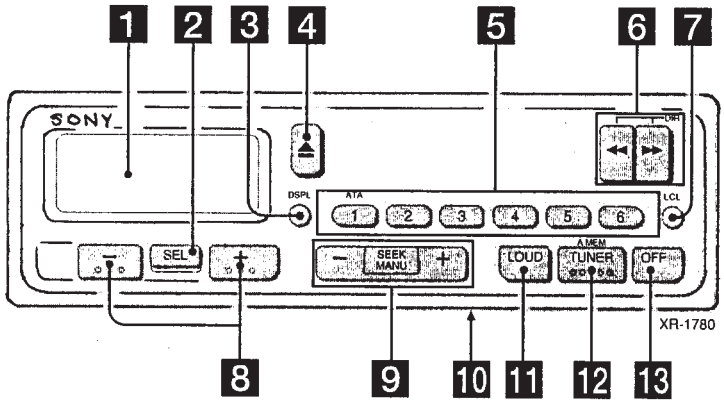
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

Location of controls



GB

Refer to the pages listed for further details.

1 Display window

2 SEL (control mode select) button 5, 8

3 DSPL (display mode change/time set) button 5

4 ⏏ (eject) button 6

5 During radio reception:
Preset number buttons 8

During tape playback:
ATA (Automatic Tuner Activation) button 6

6 ◀◀/▶▶ (fast-winding)/DIR (tape transport direction change) buttons 6

7 LCL (local seek) button 7

8 (volume/bass/treble/balance/fader control) buttons 5, 8

9 SEEK/MANU button 7

10 Frequency select switch (located on the bottom of the unit)
See "Frequency select switch" in the Installation/Connections manual.

11 LOUD (loudness) button 8

12 TUNER/A MEM (radio on • band select/automatic memory) button 7, 8

13 OFF button

Getting Started

Setting the clock

The clock has a 12-hour digital indication.

Example: To set the clock to 10:08

1 Display the time.
(Press the DSPL button during unit operation.)

2 Press the DSPL button for more than two seconds.

The hour digits blinks.

Set the hour.

(to go backward) (to go forward)

3 Press the SEL button.

The minute digits blink.

Set the minute.

(to go backward) (to go forward)

4 Press the DSPL button.

The clock activates.

Note
The clock cannot be set unless the power is turned on. Set the clock after you turn on the radio, or during tape playback.

Installation

التركيب

Precautions

- Choose the installing location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

تنبيهات إحتياطية

- قم باختيار موقع التركيب بعناية بحيث لا تكون عائقا اثناء مع وظائف القيادة العادية للسيارة.
- تجنب تركيب الوحدة حيث تكون معرضة لدرجات حرارة مرتفعة، كأن تتعرض لضوء الشمس المباشر او للهواء الساخن من الدفاية، او حيث تتعرض للغبار او الاوساخ او الاهتزازات الزائدة.
- لا تستعمل مستلزمات تركيب غير تلك المجهزة وذلك لضمان السلامة والتركيب الآمن.

ضبط زاوية التركيب

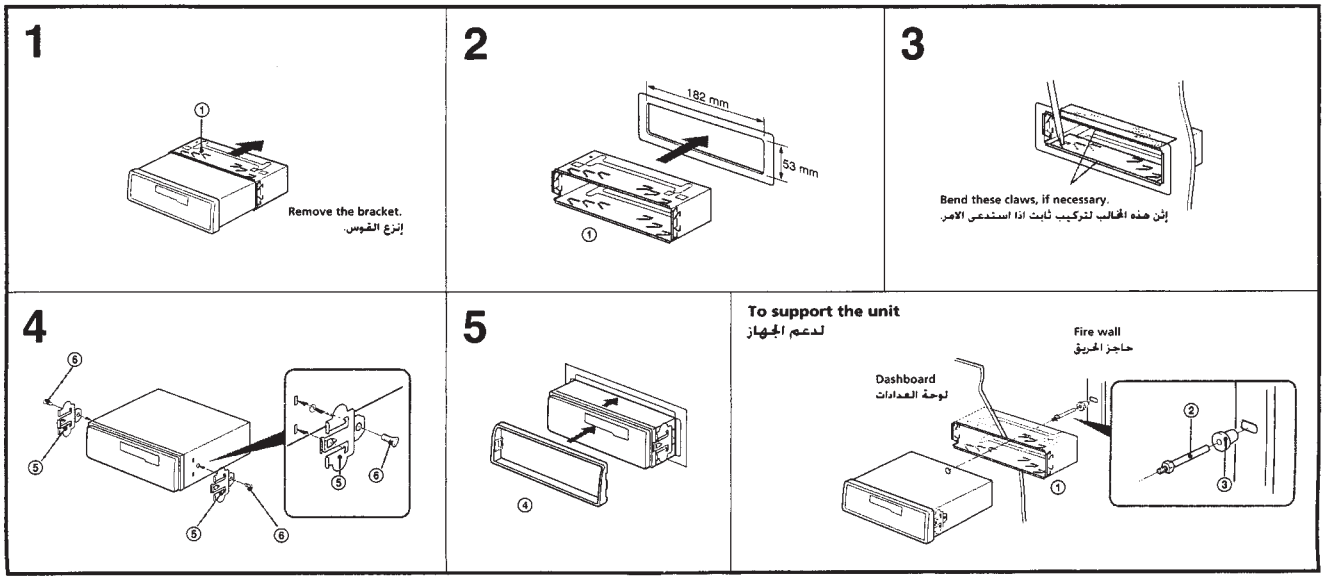
اضبط زاوية التركيب أقل من ٢٠°.

Mounting example

Installing in the dashboard

مثال على التركيب

التركيب على لوحة العدادات

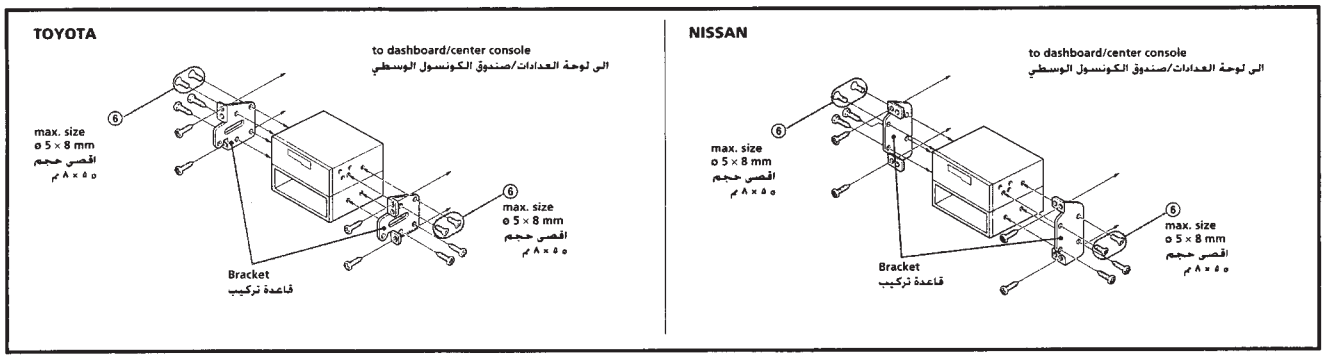


Mounting the unit in a Japanese car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your nearest Sony dealer.

تركيب الوحدة في سيارة يابانية

هذه الوحدة لا يمكن تركيبها في بعض انواع السيارات. في تلك الحالة، قم باستشارة أقرب موزع لمنتجات سوني لديك.



Note

To prevent malfunction, install only with the supplied screws ⑥.

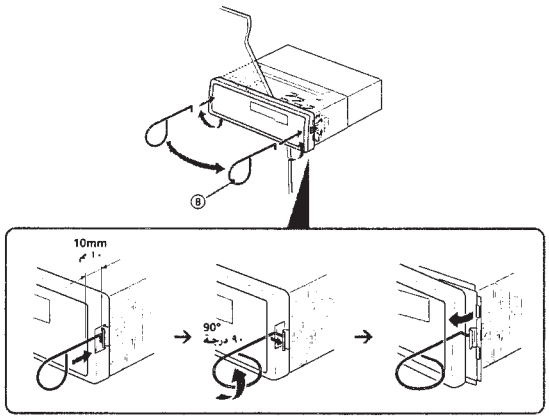
ملاحظة

لمنع العطل قم بتركيب الوحدة باستعمال البراغي المجهزة فقط ⑥

Dismounting the unit
تفكيك الجهاز

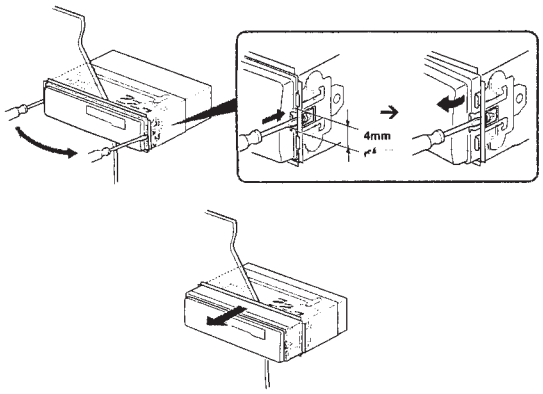
1 Insert the supplied tool ⑧ between the unit and the frame, and rotate 90° to release the hidden mounting spring. Repeat on the opposite side and remove the frame.

قم بإدخال الأداة المرفقة ⑧ بين الجهاز والإطار، وقم بتدويره ٩٠ درجة لتحرير البرغي التركيب المخفي. قم بالتكرار على الجانب المعاكس وانزع الإطار.



2 Insert a flathead screwdriver between the bracket and mounting spring. Gently pry the spring toward the unit while pulling the unit out a little. Repeat on the opposite side and remove the unit.

قم بإدخال مفك براغي مسطح الرأس بين القوس وبرغي التركيب. قم برفع البرغي باتجاه الجهاز بلطف وذلك أثناء سحب للخارج. قم بتكرار على الجانب المعاكس وانزع الجهاز.

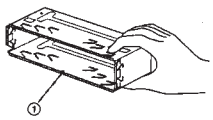


Caution

Cautionary notice for handling the bracket ①.
Handle the bracket carefully to avoid injuring your fingers.

تنبيه

ملاحظة تحذيرية حول تناول قاعدة التركيب ①.
تناول قاعدة التركيب بحرص لتفادي جرح اصابعك.



Note

The tool ⑧ is used for removing the unit.
Be sure to keep it for future use.

ملاحظة

تستخدم الاداة ⑧ لنزع الجهاز.
تاكد من الإحتفاظ بها لإستخدامها مستقبلاً.

Connections

التوصيل

Caution

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Before making connections, disconnect the earth terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all earth wires to a common earth point.**

تنبيهات

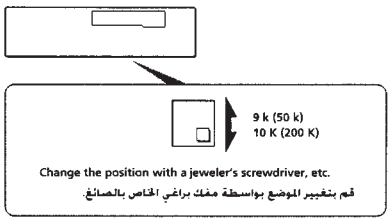
- هذه الوحدة مصممة للتشغيل على تيار مباشر ١٢ فولت بتأريض سالب فقط.
- إحرص على أن لا تثقب اي أسلاك بين البرغي والجسم بالسيارة أو بالجهاز هذا أو بين أي قطع متحركة مثل تسبيح الكرسي الخ.
- قبل عمل التوصيلات. إفصل طرف توصيل الارضي الخاصة ببطارية السيارة لتفادي حدوث تماس كهربي.
- لا تقم بتوصيل أسلاك دخل التيار **الاصفر والاحمر** إلا بعد الانتهاء من توصيل جميع الاسلاك الاخرى.
- تأكد من توصيل سلك دخل التيار الاحمر بطرف التيار ١٢ فولت الموجب الذي يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثاني (وضع الكماليات).
- **قم بتمديد جميع اسلاك التأريض الى نقطة تأريض مشتركة.**

Frequency select switch

The MW (FM) tuning interval is factory-set to the 9K (50K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10K (200K) position before making connections.

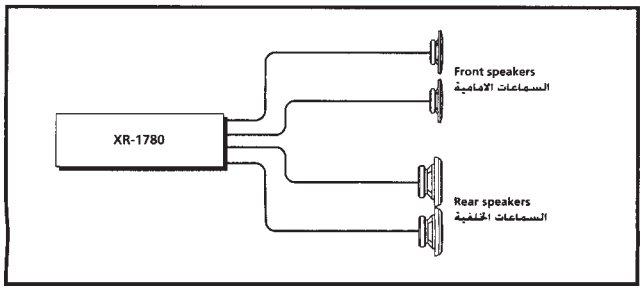
مفتاح إختيار التردد

تم ضبط فاصل موالفة الموجة المتوسطة MW (اف إم FM) بالمصنع على الموضع ٩ K (٥٠ K). إذا كان نظام إتاحة التردد ببلدك مثبت على فاصل ١٠ كيلوهرتز (٢٠٠ كيلوهرتز). فقم بوضع المفتاح الموجود بأسفل الجهاز على الموضع ١٠ K (٢٠٠ K) قبل عمل التوصيلات.



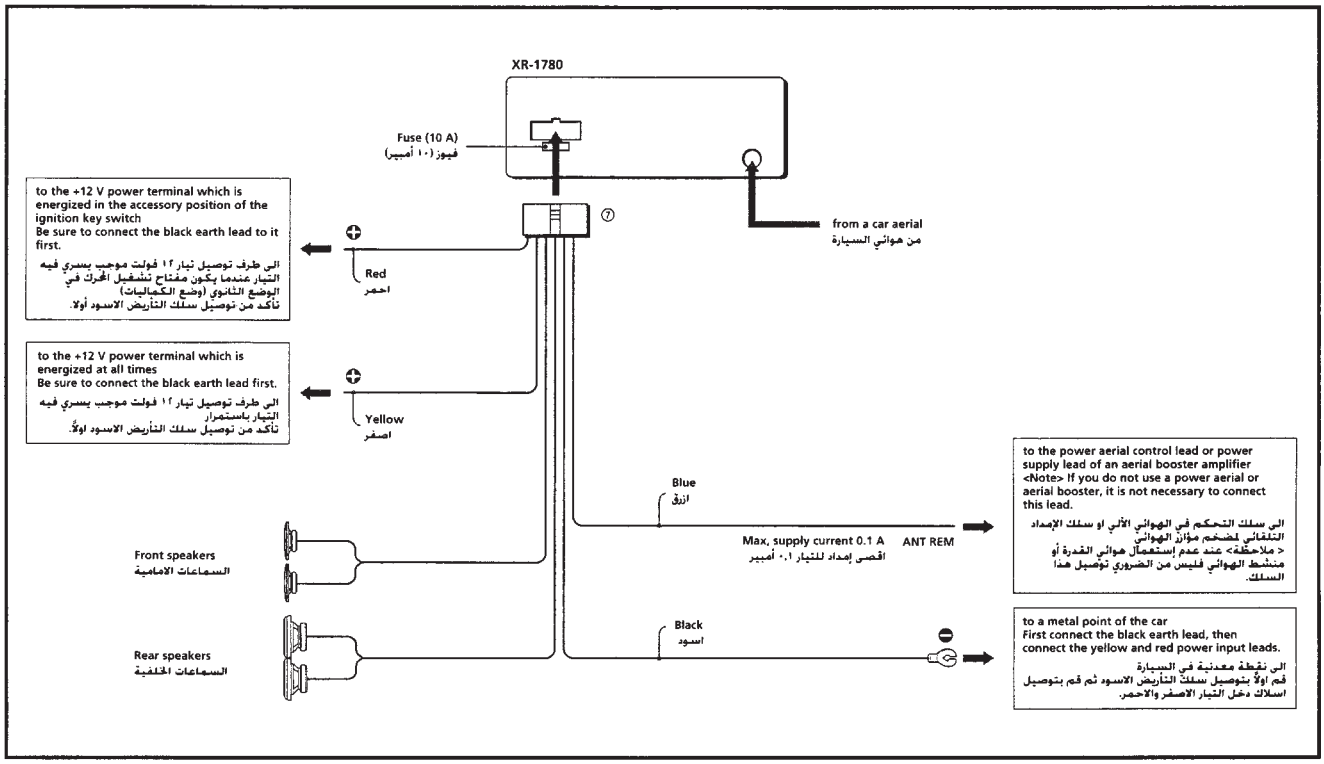
Connection diagram

مخطط التوصيل



Connection example

مثال على التوصيل


XR-1780
Fuse (10 A)
فيوز (١٠ أمبير)
to the +12 V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black earth lead to it first.
الى طرف توصيل تيار ١٢ فولت موجب يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات)
تأكد من توصيل سلك التأريض الاسود أولا.
Red
احمر
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead first.
الى طرف توصيل تيار ١٢ فولت موجب يسري فيه التيار باستمرار
تأكد من توصيل سلك التأريض الاسود اولاً.
Yellow
اصفر
from a car aerial
من هوائي السيارة
Blue
ازرق
Max, supply current 0.1 A
اقصى إمداد للتيار ٠.١ أمبير
ANT REM
to the power aerial control lead or power supply lead of an aerial booster amplifier
<Note> If you do not use a power aerial or aerial booster, it is not necessary to connect this lead.
الى سلك التحكم في الهوائي الآلي او سلك الإمداد التلقائي لمضخم مؤازر الهوائي
< ملاحظة> عند عدم إستعمال هوائي القدرة أو منشط الهوائي فليس من الضروري توصيل هذا السلك.
Front speakers
السماعات الامامية
Rear speakers
السماعات الخلفية
Black
اسود
to a metal point of the car
First connect the black earth lead, then connect the yellow and red power input leads.
الى نقطة معدنية في السيارة
قم اولاً بتوصيل سلك التأريض الاسود ثم قم بتوصيل اسلاك دخل التيار الاصفر والاحمر.

Notes on the control leads

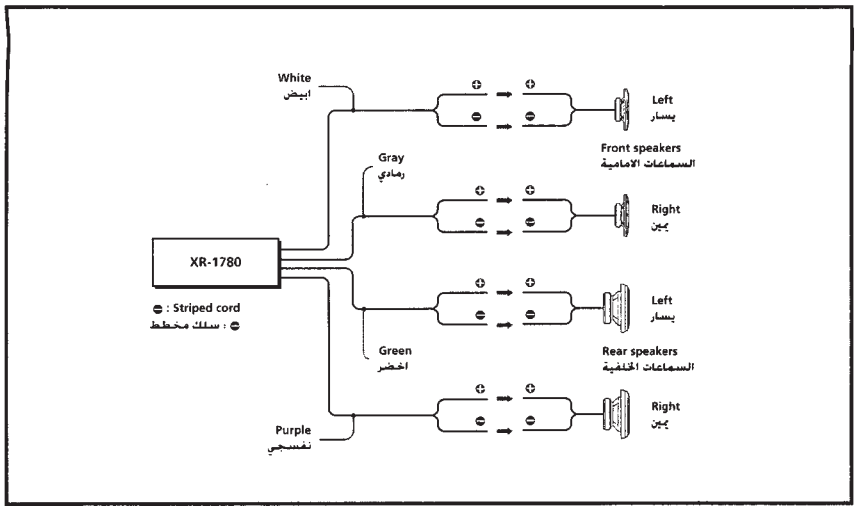
- *The power aerial control lead (blue) supplies 12V DC when you turn on the unit.*
- *A power aerial without a relay box cannot be used with this unit.*

ملاحظات حول اسلاك التحكم

- *سلك التحكم في الهوائي الآلي (ازرق) يقوم بإمداد تيار مباشر ١٢ فولت موجب عندما تقوم بتشغيل الجهاز.*
- *لا يمكن استعمال هوائي آلي بدون صندوق ترحيل مع هذه الوحدة.*

Speaker connections

توصيلات سماعة التكبير



Notes on speaker connection

- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

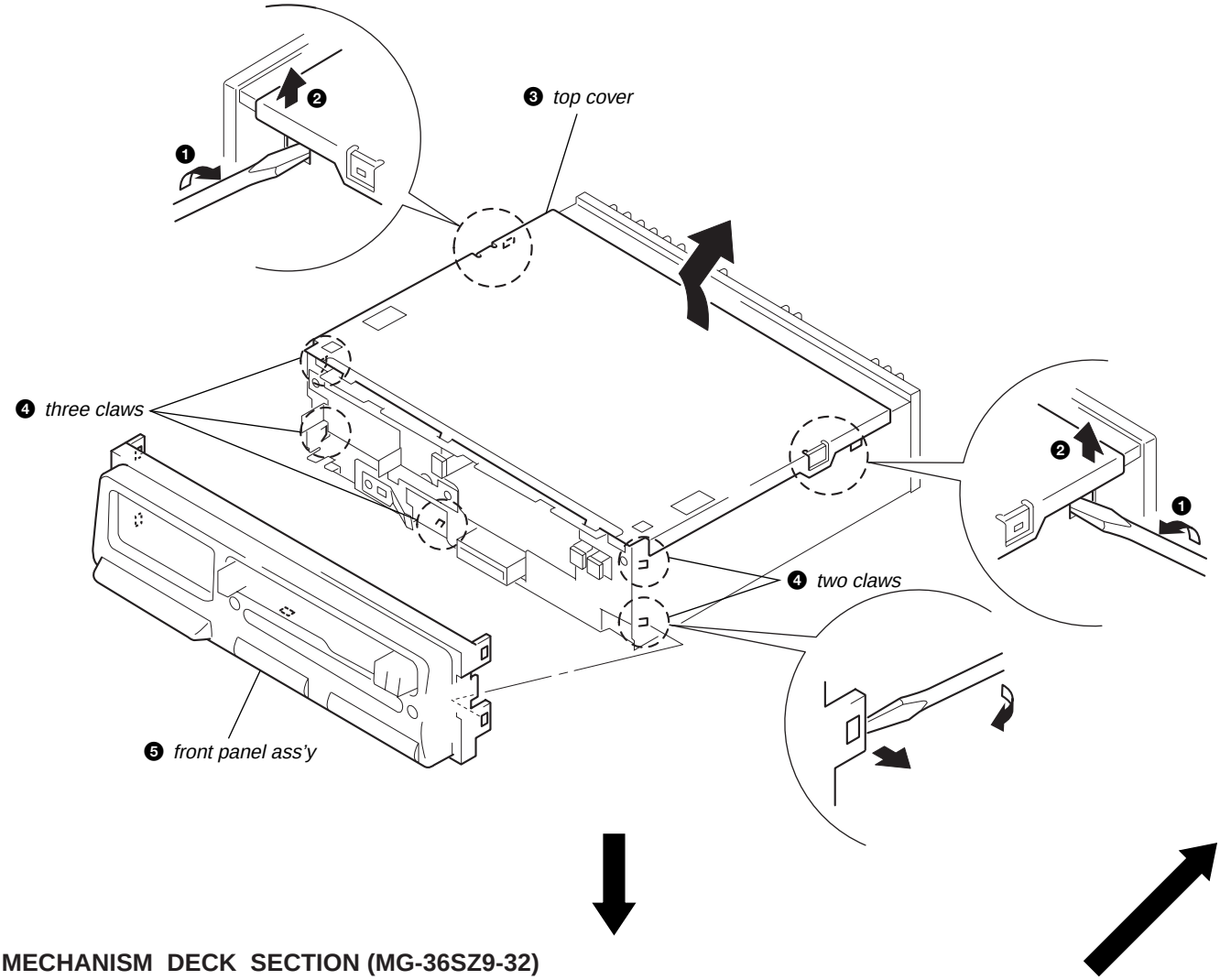
ملاحظات حول توصيل السماعات

- *استعمل السماعات مع معاوقة ٤ الى ٨ اوم، وسعة طاقة مناسبة. وإلا، فقد تصاب السماعات بضرر.*
- *لا تعمد الى توصيل اطراف توصيل نظام السماعات بشاسي السيارة ولا الى توصيل اطراف توصيل السماعات اليمنى باطراف توصيل السماعات اليسرى.*
- *لا تحاول توصيل السماعات على التوازي.*
- *لا تعمد الى توصيل اي سماعات نشطة (مجهزة بمضخمات داخلية) باطراف توصيل السماعات في الوحدة. يمكن لمثل هذا العمل ان يتلف السماعات النشطة. لذا تأكد من توصيل سماعات غير نشطة بتلك الاطراف.*

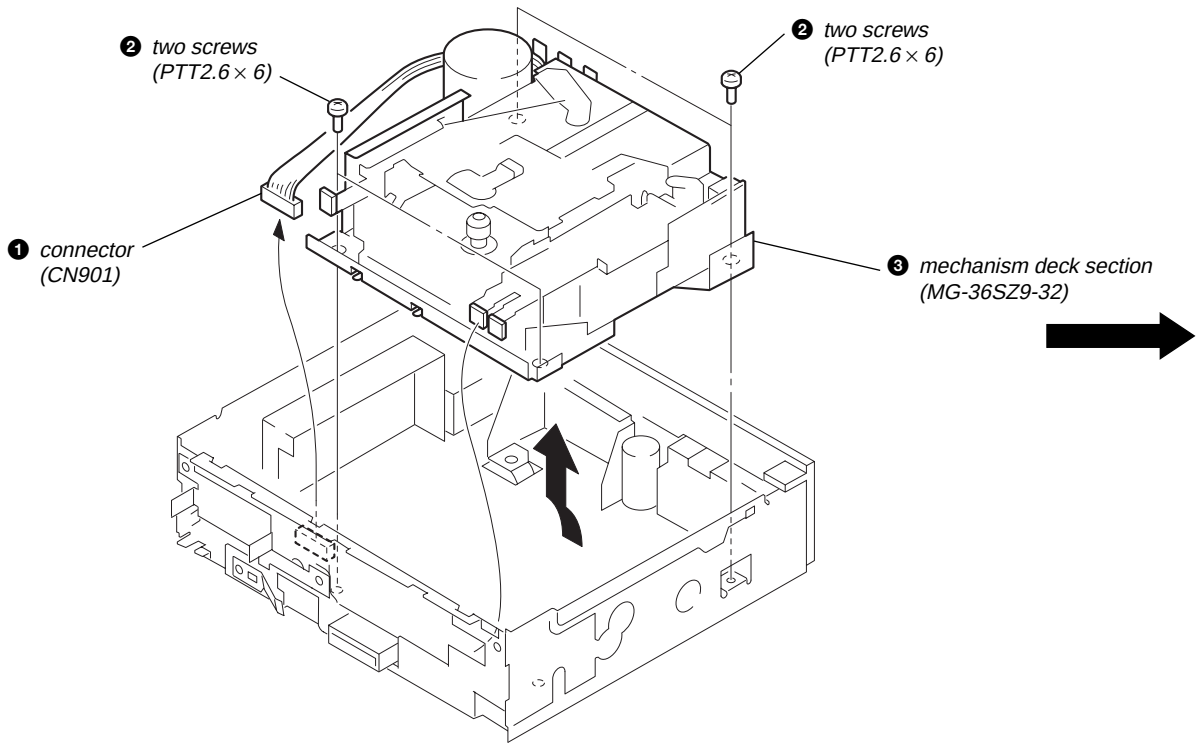
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

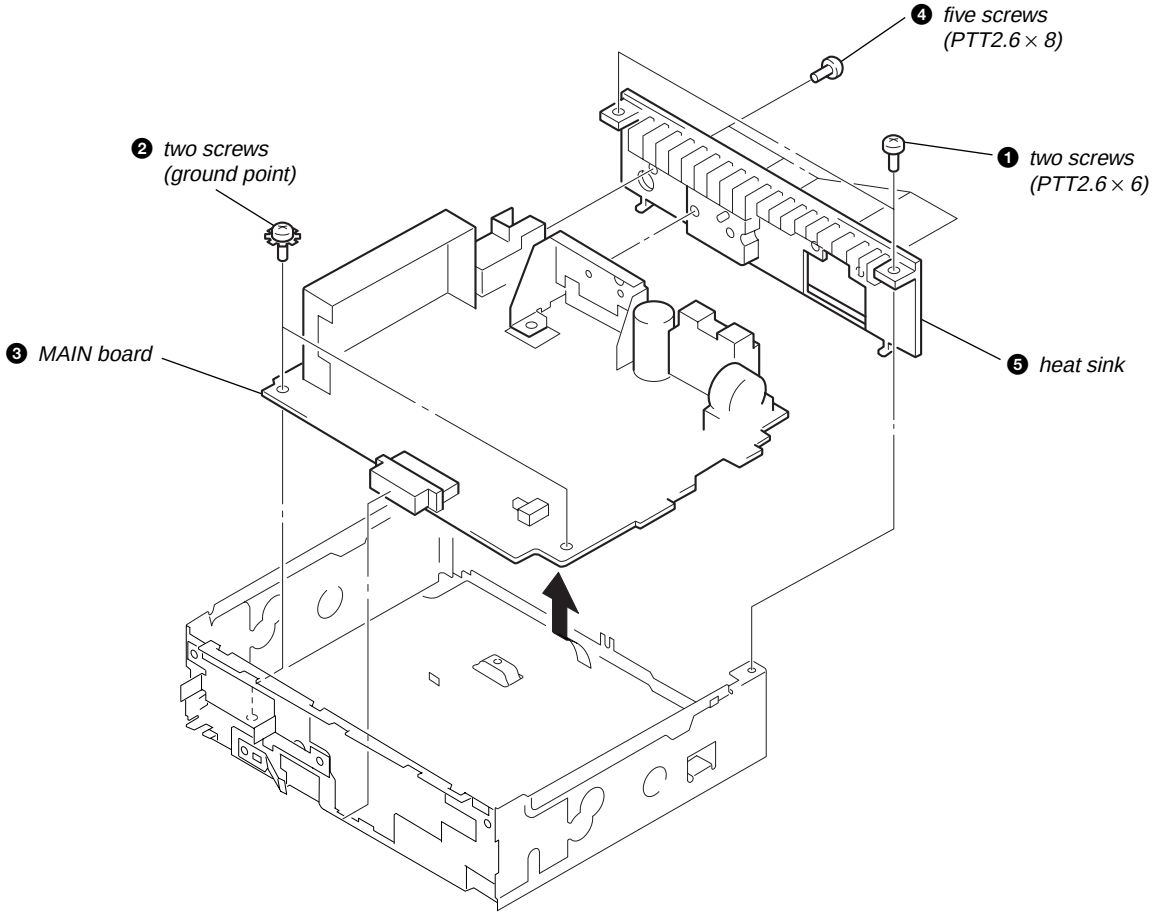
FRONT PANEL ASS'Y



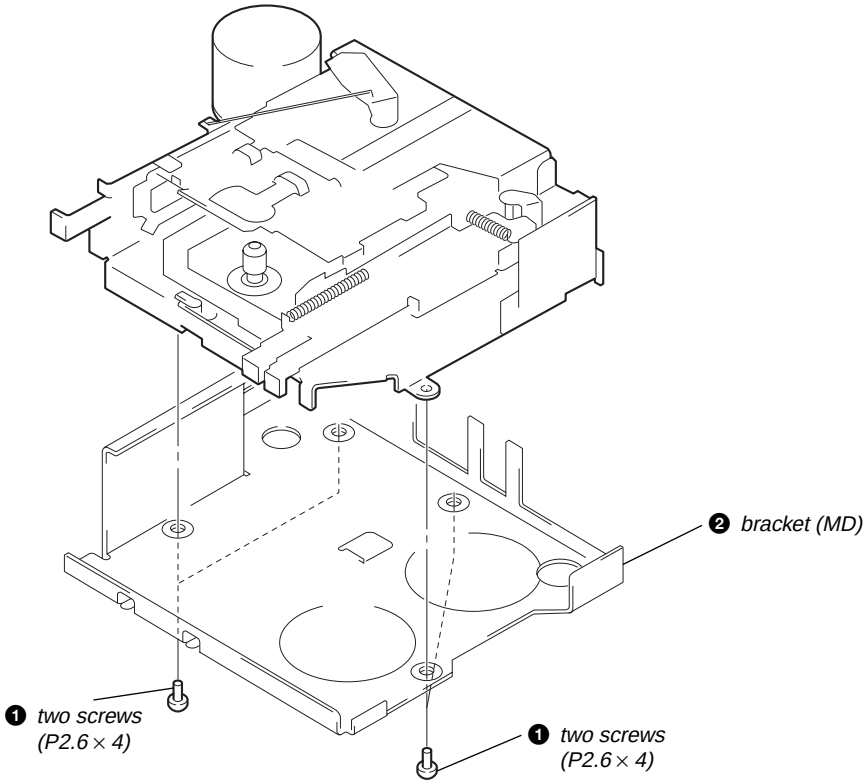
MECHANISM DECK SECTION (MG-36SZ9-32)



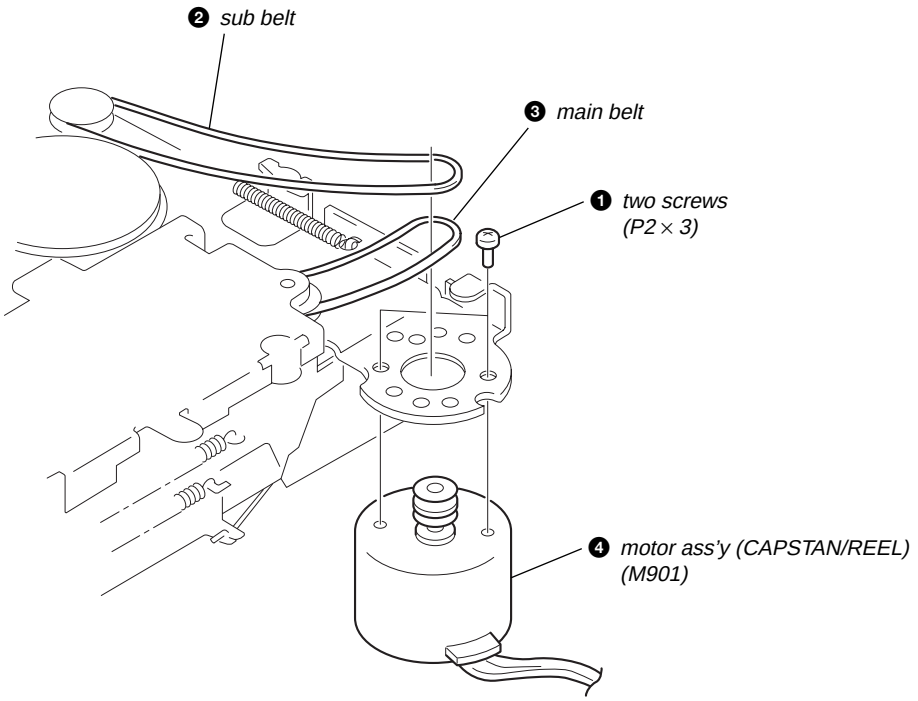
MAIN BOARD, HEAT SINK



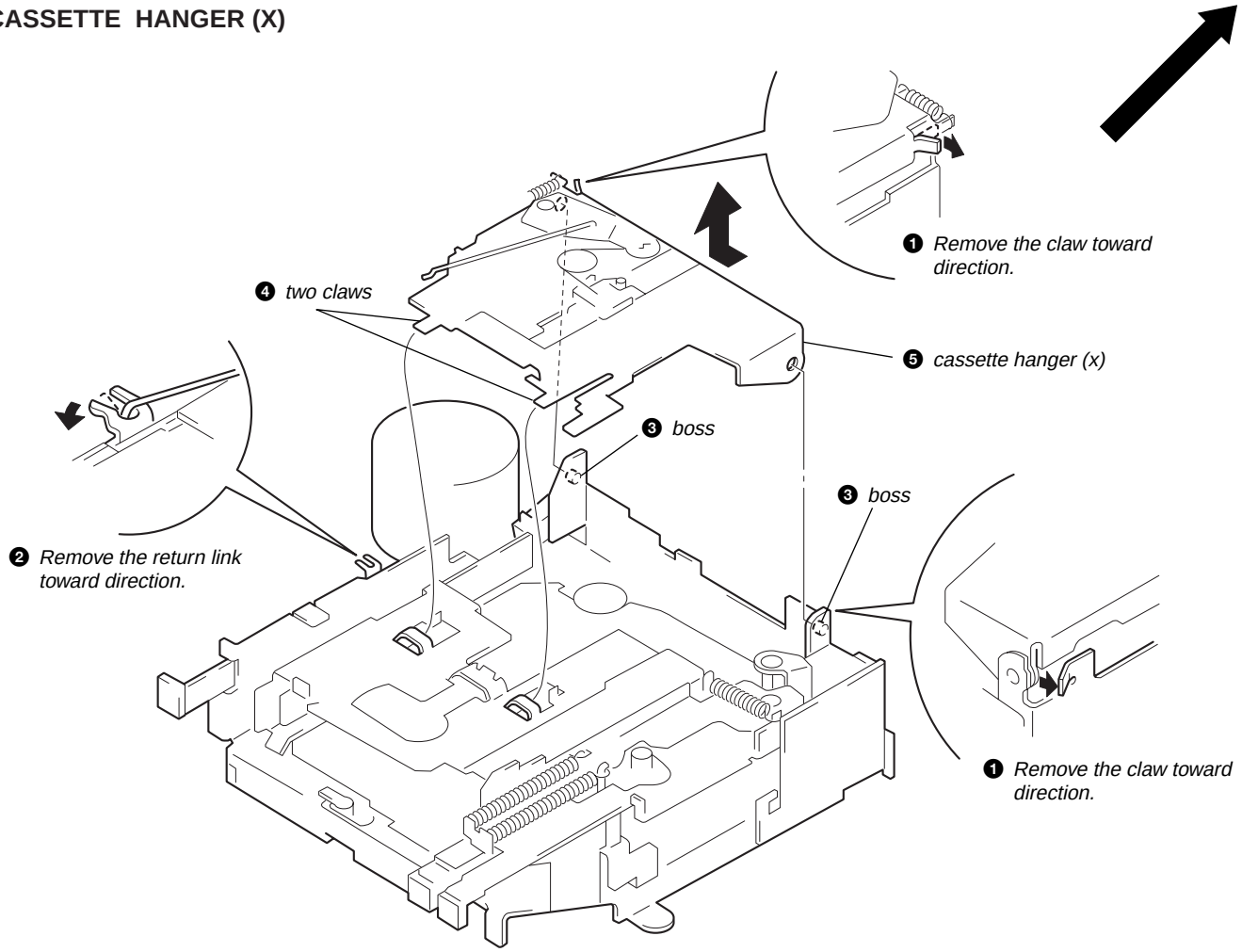
BRACKET (MD)



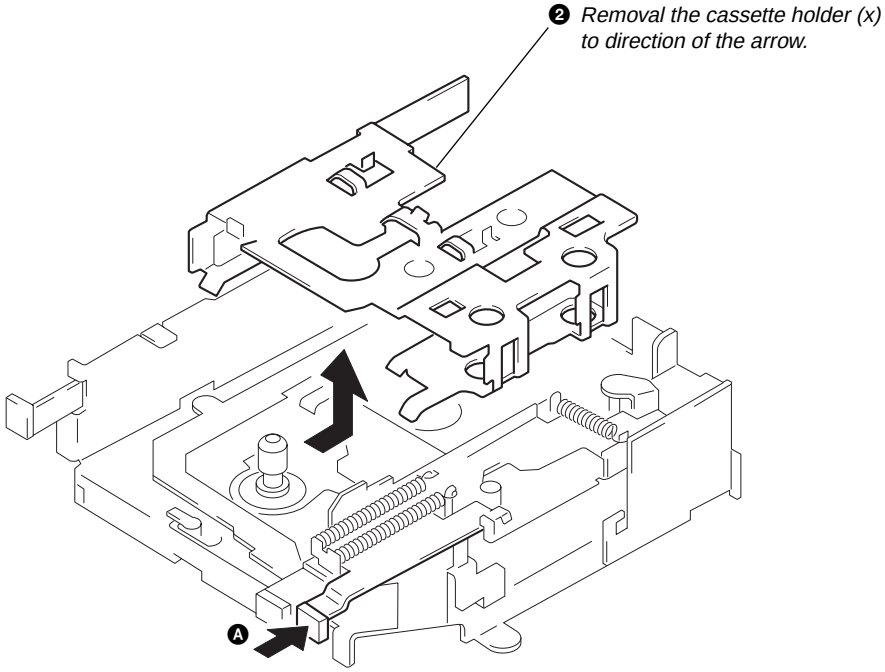
MOTOR ASS'Y (CAPSTAN/REEL) (M901)



CASSETTE HANGER (X)


❶ Remove the claw toward direction.
❹ two claws
❺ cassette hanger (x)
❸ boss
❸ boss
❷ Remove the return link toward direction.
❶ Remove the claw toward direction.

CASSETTE HOLDER (X)



❶ *Push an arrow Ⓐ part.*

SECTION 3
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the power supply voltage (14.4 V) unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	25 – 55 g•cm (0.35 – 0.76 oz•inch)
Forward Back Tension	CQ-102C	1.5 – 4 g•cm (0.02 – 0.06 oz•inch)
Reverse	CQ-102RC	25 – 55 g•cm (0.35 – 0.76 oz•inch)
Reverse Back Tension	CQ-102RC	1.5 – 4 g•cm (0.02 – 0.06 oz•inch)
FF, REW	CQ-201B	50 – 150 g•cm (0.69 – 2.08 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 60 g (more than 2.12 oz)
Reverse	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION | 0 dB= 0.775 V

1. The adjustments should be performed in the order given in this service manual.
2. The adjustments should be performed for both L-CH and R-CH.

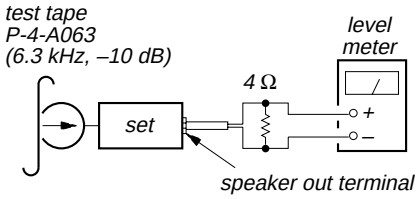
Test Tape

Type	Signal	Used for
P-4-A063	6.3 kHz, –10 dB	head azimuth adjustment
WS-48A	3 kHz, 0 dB	tape speed adjustment

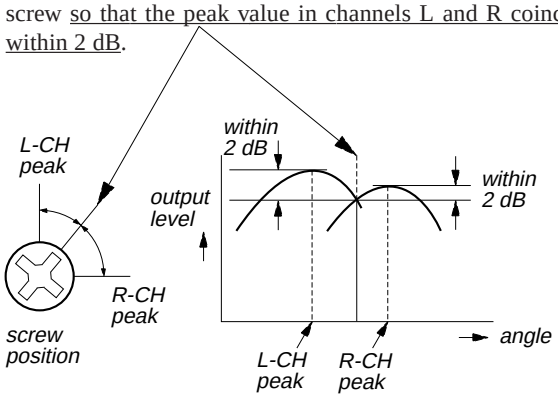
PB Head Azimuth Adjustment

Procedure:

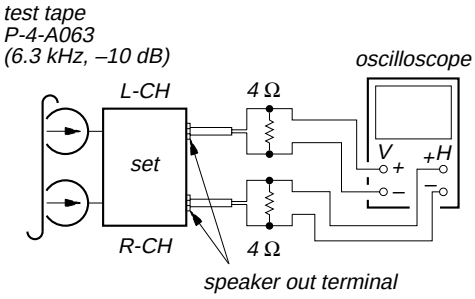
1. Put the set into the FWD PB mode.

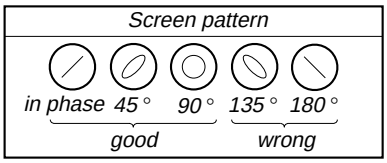


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 2 dB.



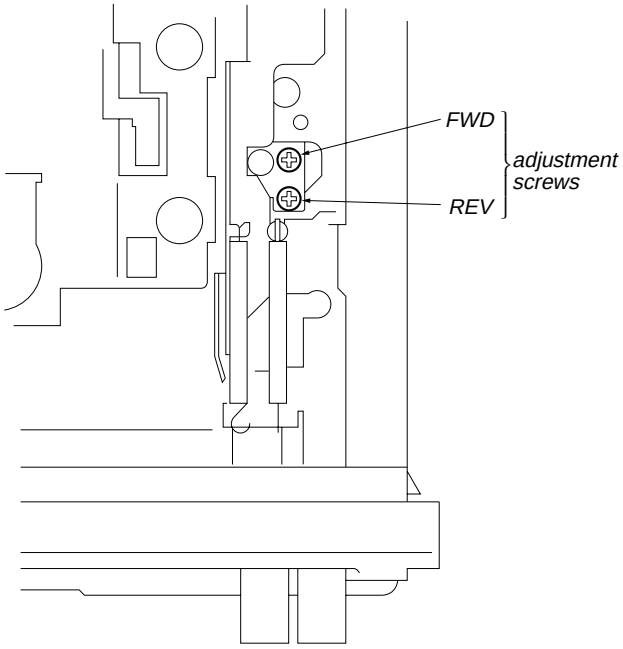
3. Check the phase in the FWD PB mode.





4. Repeat the above adjustment for the REV PB mode.
5. Check that output level difference between FWD PB mode and REV PB mode is within 4 dB.

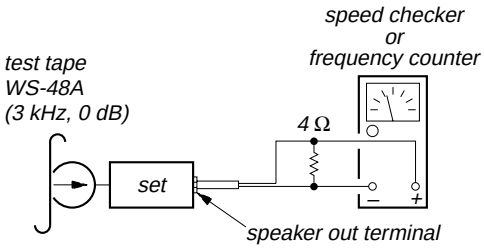
Adjustment Location: PB head



See the adjustment location from on page 15 for the adjustment.

Tape Speed Adjustment

Setting:



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification: Constant speed

Speed checker	Frequency counter
–2 to +3%	2,940 to 3,090 Hz

Adjustment Location: See page 15.

TUNER SECTION

0 dB=1 µV

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

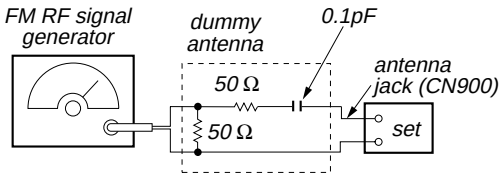
Note: Adjust the tuner section in the sequence shown below.

1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. MW Auto Scan/Stop Level Adjustment

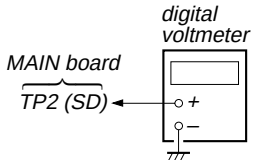
FM Auto Scan/Stop Level Adjustment

Setting:

TUNER button: FM 1
FREQUENCY SELECT switch: FM50 k



Carrier frequency : 98.0 MHz
Output level : 28 dB (25.1 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)



Procedure:

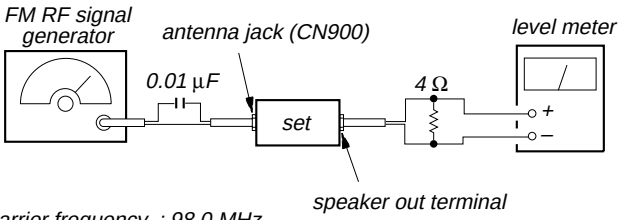
1. Tune the set to 98.0 MHz.
2. Connect the digital voltmeter to TP2 (SD) on MAIN board.
3. Adjust RV2 on TU100 so that the reading on the digital voltmeter changes point from low to high.

Adjustment Location: See page 15.

FM Noise Focus Adjustment

Setting:

TUNER button: FM1
FREQUENCY SELECT switch: FM 50 k



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure:

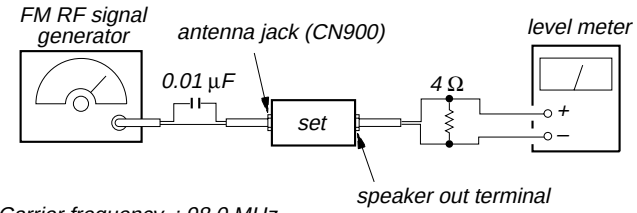
1. Tune the 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU100 so that the output level is (A) –32 dB then signal generator input set to –20 dB.

Adjustment Location: See page 15.

FM Stereo Separation Adjustment

Setting:

TUNER button: FM1
FREQUENCY SELECT switch: FM 50 k



Carrier frequency : 98.0 MHz
Output level : 76 dB (6.3 mV)
Mode : stereo
Modulation : main: 1 kHz, 33.75 kHz deviation (45%)
sub: 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot: 7.5 kHz deviation (10%)

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU100 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU100 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

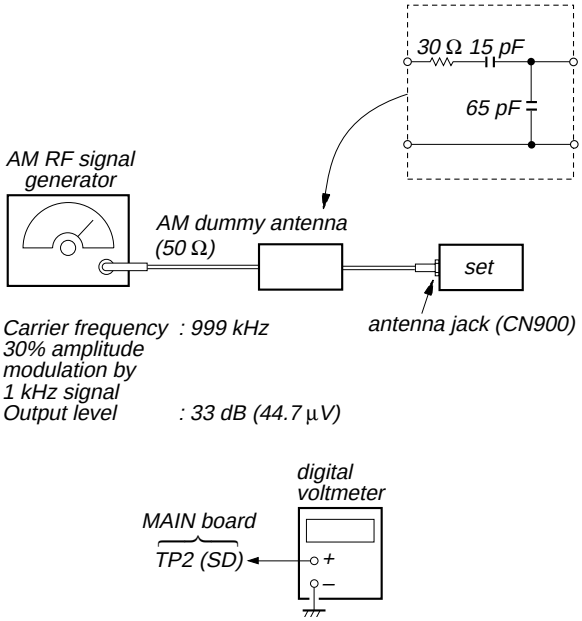
Specification: Separation more than 26 dB

Adjustment Location: See page 15.

MW Auto Scan/Stop Level Adjustment

Setting:

TUNER button: MW
FREQUENCY SELECT switch: MW 9 k



Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV)

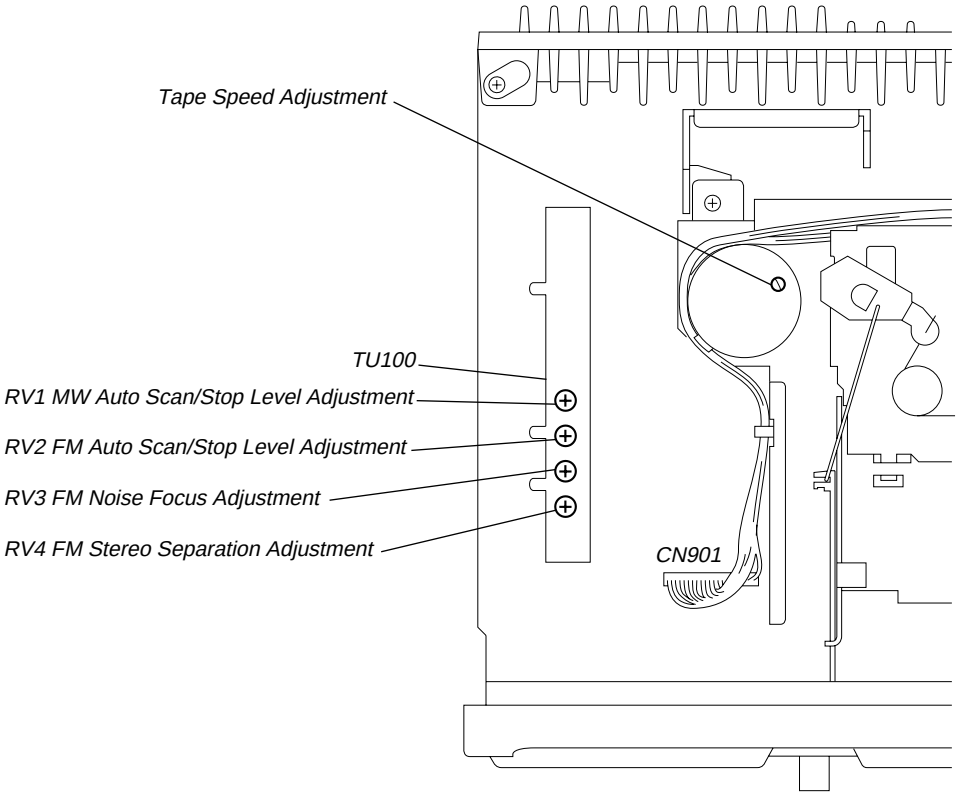
Procedure:

1. Tune the set to 999 kHz
2. Connect the digital voltmeter to TP2 (SD) on MAIN board.
3. Adjust RV1 on TU100 so that the reading on the digital voltmeter changes point from low to high.

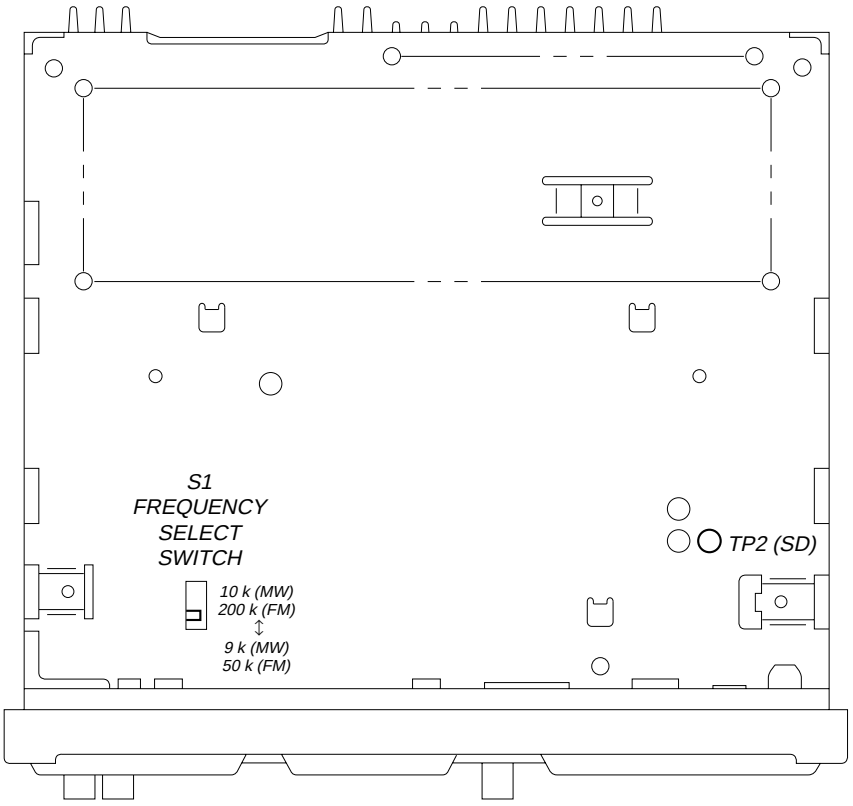
Adjustment Location: See page 15.

Adjustment Location:

– SET UPPER VIEW –



– SET BOTTOM VIEW –



SECTION 5
DIAGRAMS

5-1. NOTES FOR PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

Note on Printed Wiring Board:

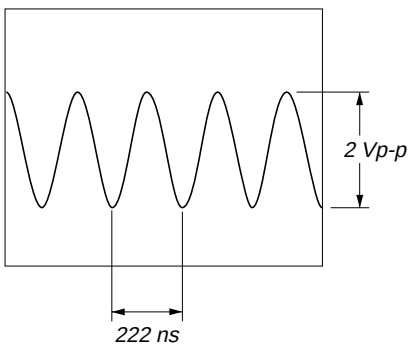
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

Note on Schematic Diagram:

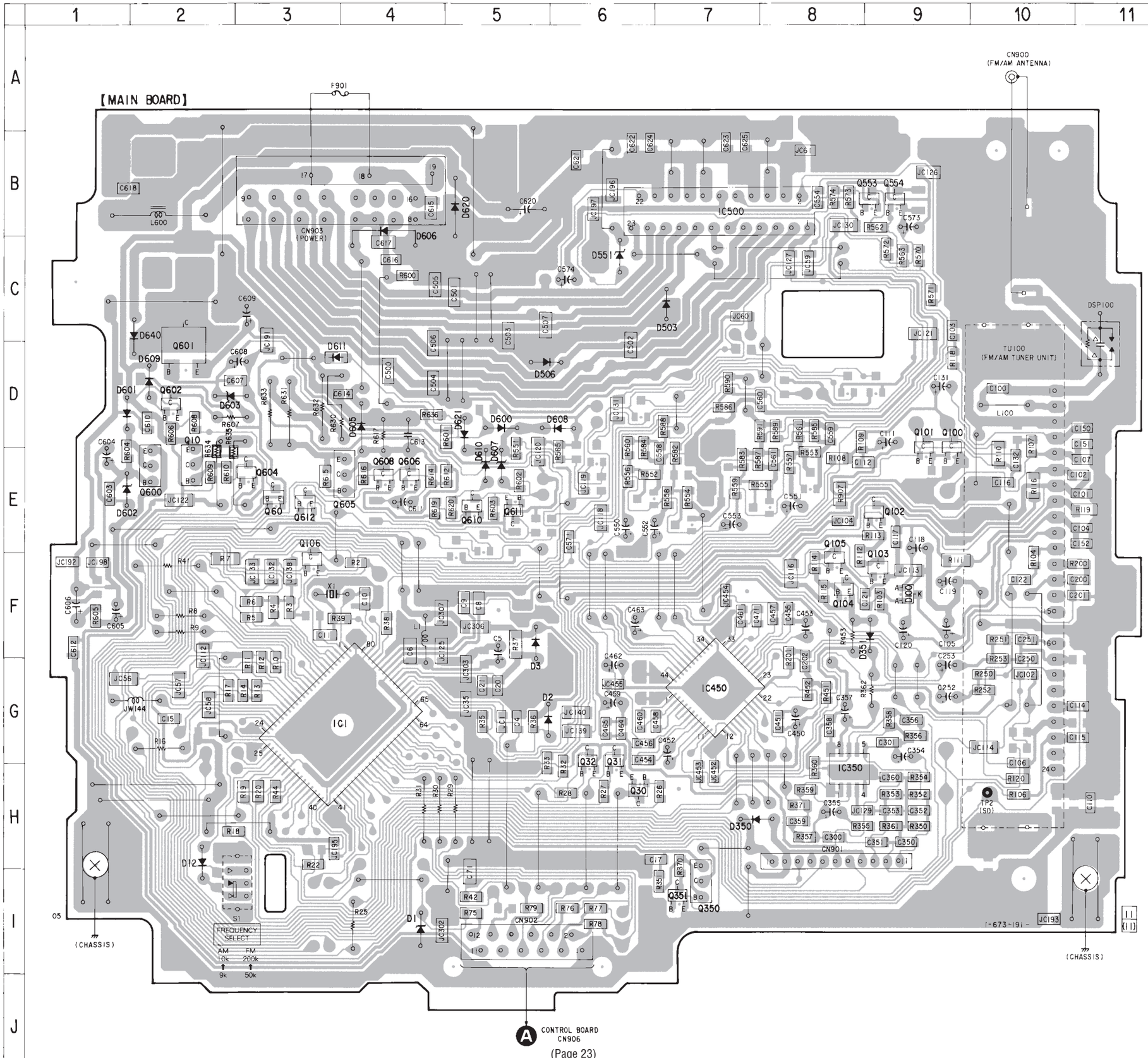
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- —▭— : nonflammable resistor.
- ▭ : panel designation.
- B + : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW/SW
  [ ] : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : MW/SW
  Σ : TAPE PLAYBACK

• Waveform
– MAIN Board –

❶ IC1 ① (XIN)



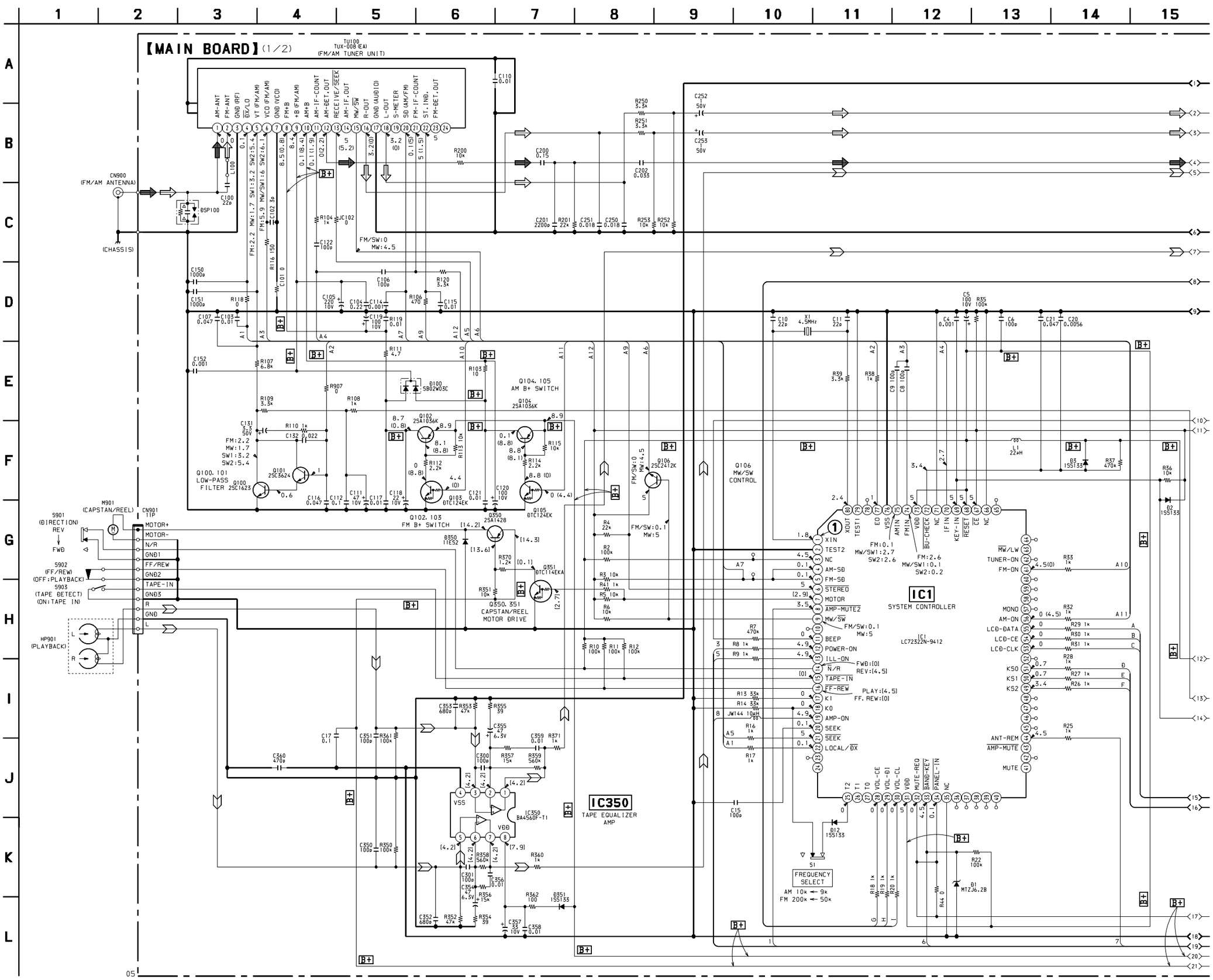
5-2. PRINTED WIRING BOARD – MAIN Board –



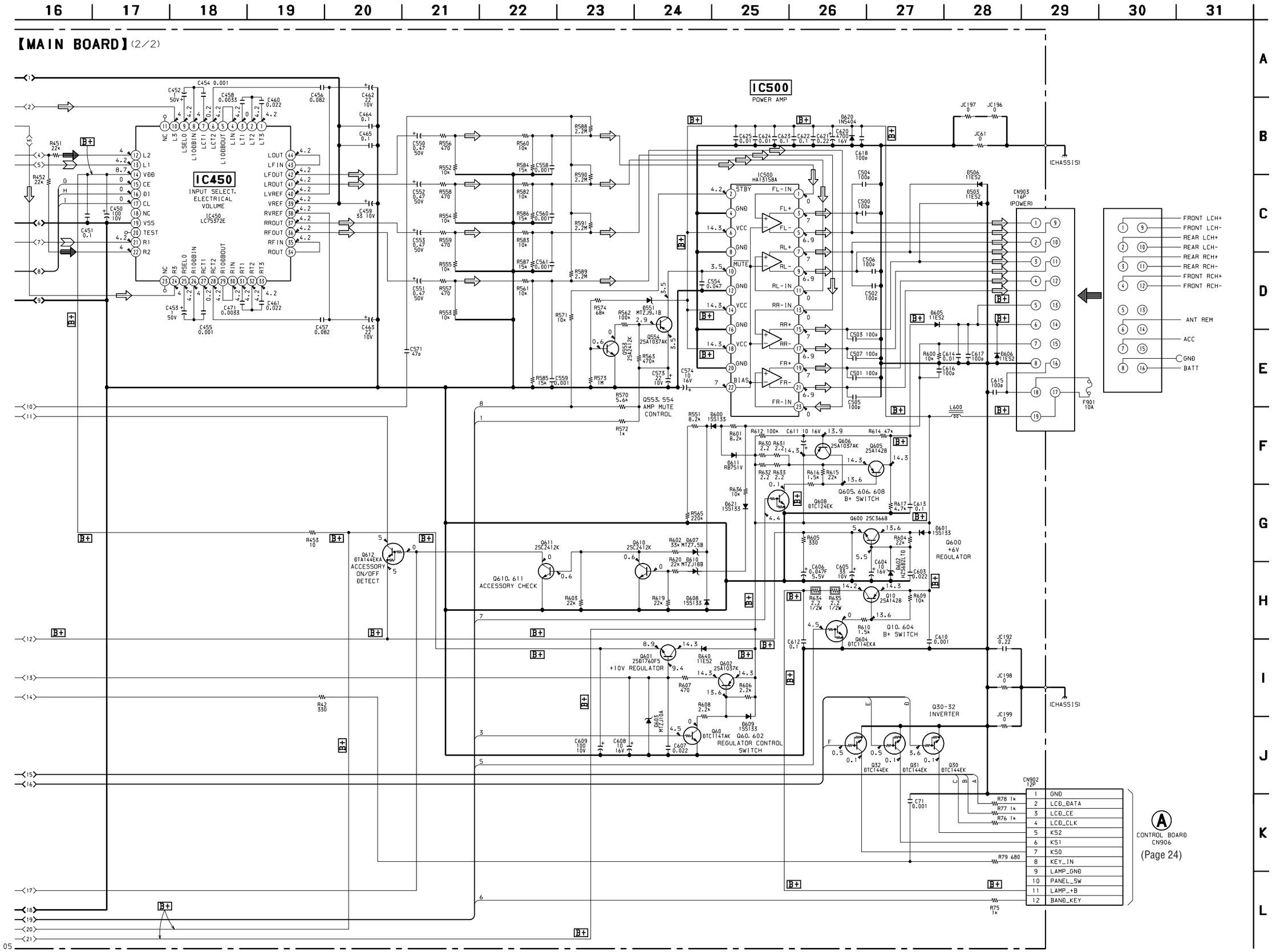
• **Semiconductor Location**

Ref. No.	Location
D1	I-4
D2	G-5
D3	F-5
D12	H-2
D100	F-9
D350	H-7
D351	F-9
D503	C-7
D506	D-5
D551	C-6
D600	D-5
D601	D-1
D602	E-1
D603	D-2
D605	D-4
D606	B-4
D607	E-5
D608	D-6
D609	D-2
D610	E-5
D611	D-3
D620	B-5
D621	D-5
D640	C-2
IC1	G-4
IC350	H-8
IC450	G-7
IC500	B-7
Q10	E-2
Q30	H-6
Q31	H-6
Q32	H-6
Q60	E-3
Q100	E-9
Q101	E-9
Q102	E-9
Q103	F-9
Q104	F-8
Q105	F-8
Q106	F-3
Q350	I-7
Q351	I-7
Q553	B-9
Q554	B-9
Q600	E-2
Q601	D-2
Q602	D-2
Q604	E-3
Q605	E-4
Q606	E-4
Q608	E-4
Q610	E-5
Q611	E-5
Q612	E-3

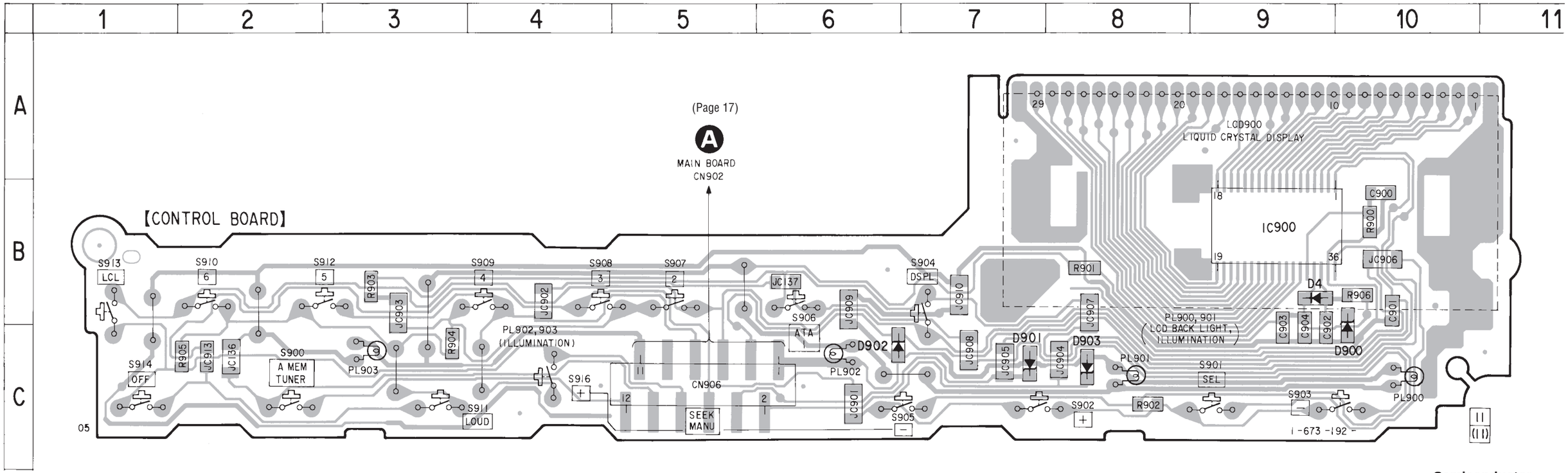
5-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 16 for Waveform.



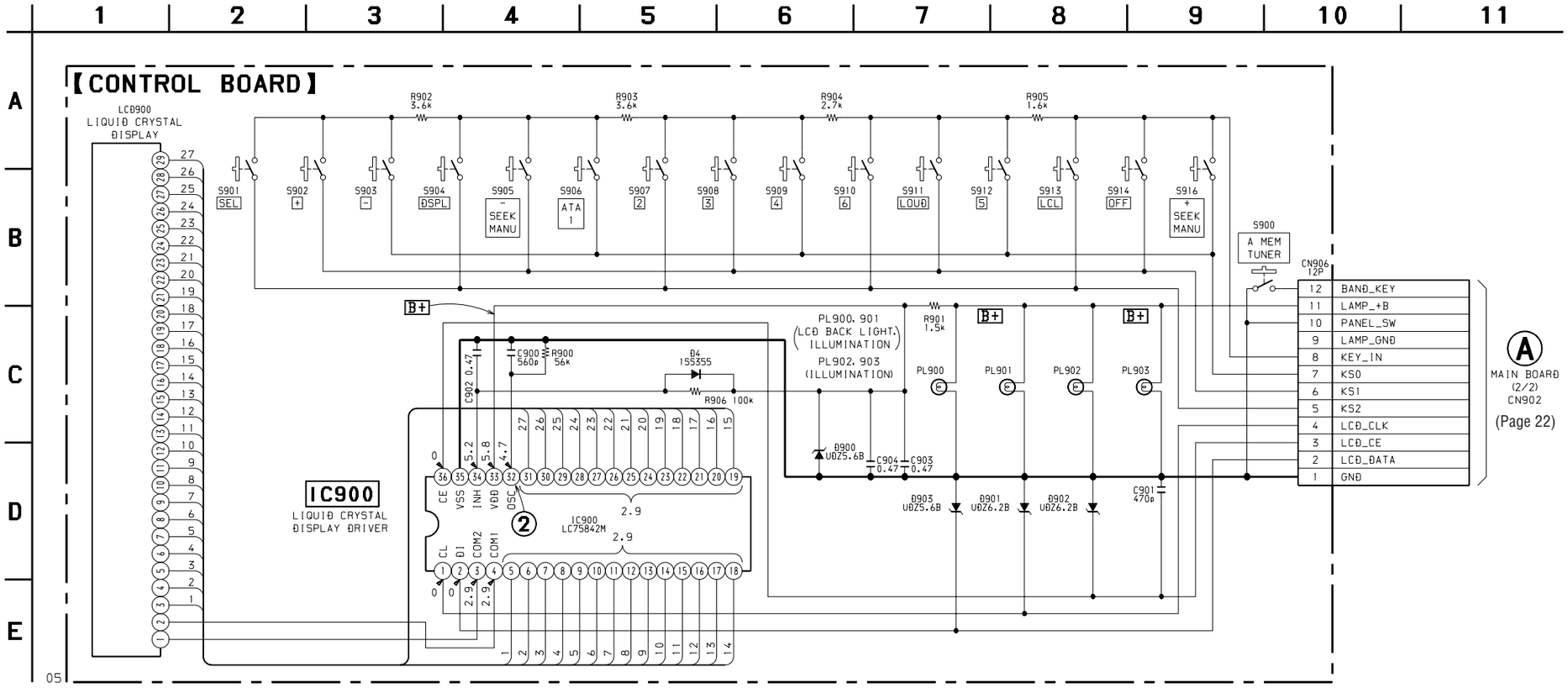
5-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) – • See page 25 for IC Block Diagram.



5-5. PRINTED WIRING BOARD – CONTROL Board –



5-6. SCHEMATIC DIAGRAM – CONTROL Board –

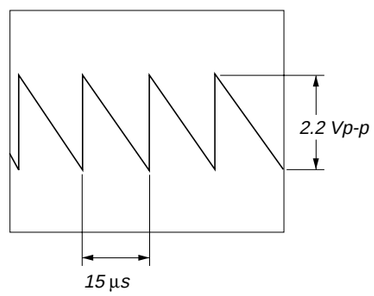


- **Semiconductor Location**

Ref. No.	Location
D4	B-9
D900	C-10
D901	C-7
D902	C-6
D903	C-8
IC900	B-9

- **Waveform**

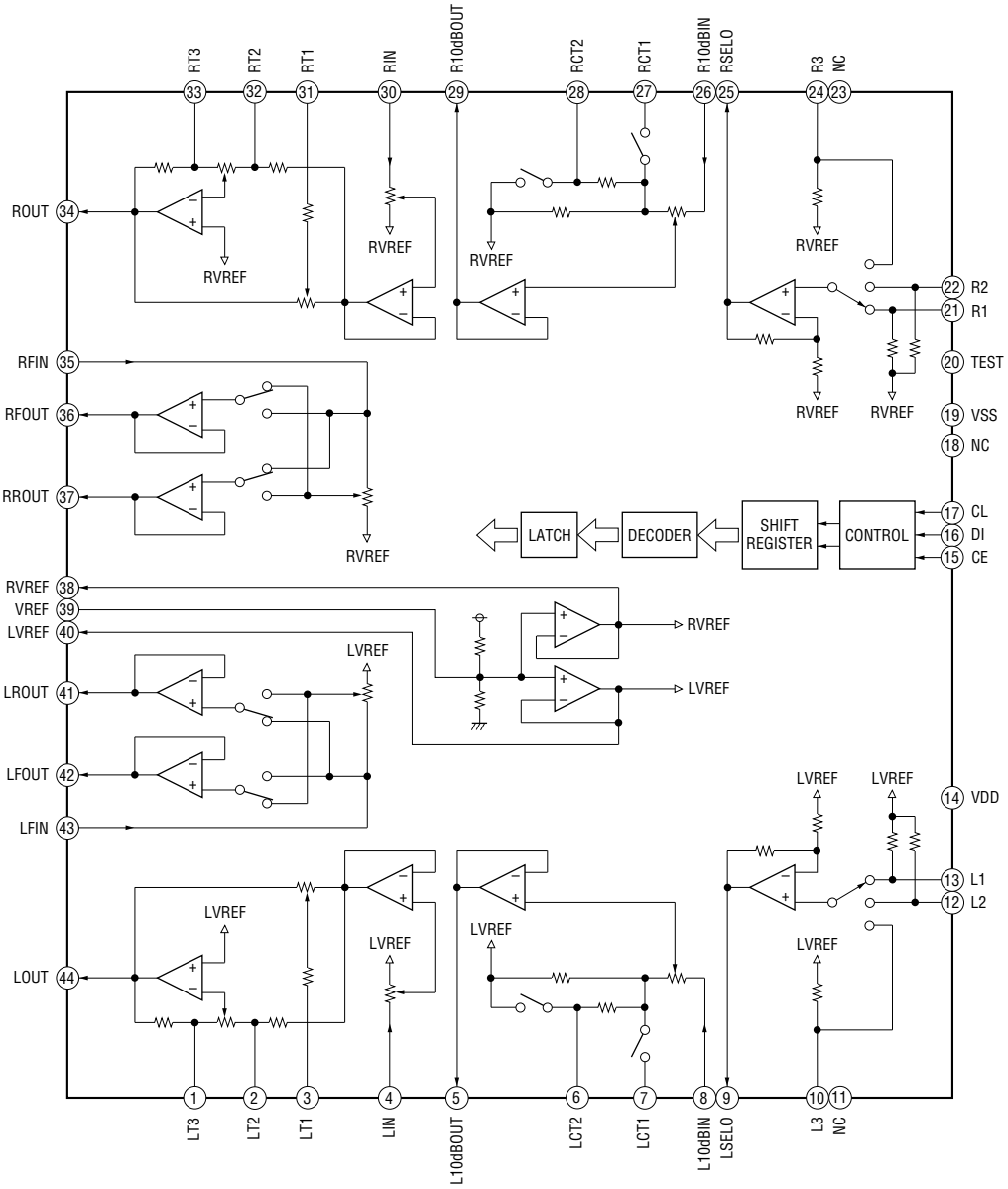
❷ IC900 ㉜ (OSC)



• **IC Block Diagram**

– MAIN Board –

IC450 LC75372E



5-7. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC1 LC72322N-9412 (SYSTEM CONTROLLER)

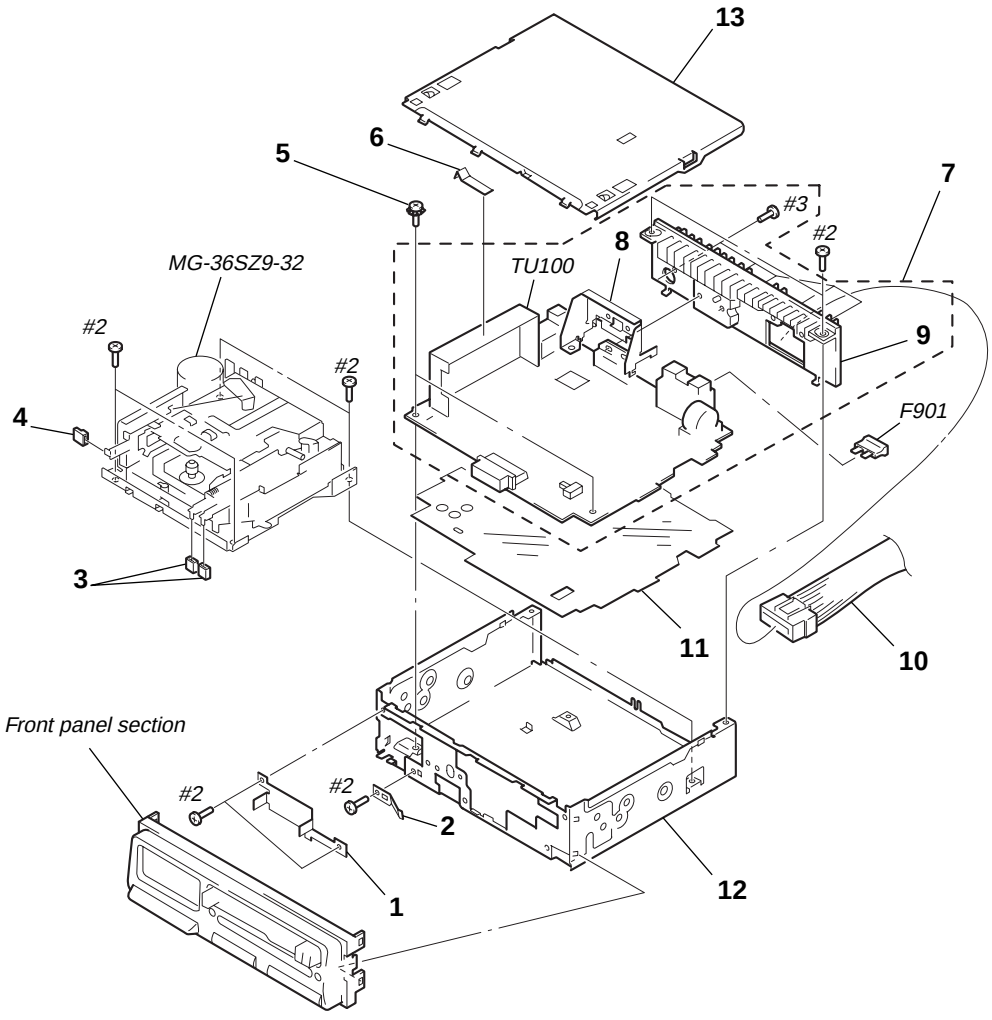
Pin No.	Pin Name	I/O	Description
1	XIN	I	System clock input terminal (4.5 MHz)
2	TEST2	I	Connected to ground
3	NC	I	Not used (fixed at "H")
4	AM-SD	I	AM signal meter voltage detection input from the FM/AM tuner unit (TU100) "H" active
5	FM-SD	I	FM signal meter voltage detection input from the FM/AM tuner unit (TU100) "H" active
6	$\overline{\text{STEREO}}$	I	Stereo detection signal input from the FM/AM tuner unit (TU100) (Commonly used for stereo display input) FM stereo detection at input of "L"
7	MOTOR	O	Capstan/reel motor (M901) drive signal output "H": motor on
8	$\overline{\text{AMP-MUTE2}}$	O	Muting control signal output to the power amplifier (IC500) "L": muting on
9	MW/$\overline{\text{SW}}$	O	MW/SW selection signal output to the FM/AM tuner unit (TU100) "L": SW, "H": MW
10	—	O	Not used (open)
11	BEEP	O	Beep sound signal output terminal "H" active
12	POWER-ON	O	Power on/off control signal output "H": power on
13	ILL-ON	O	Power on/off control signal output for the liquid crystal display driver (IC900), illumination lamp and back light lamp "H": power on
14	$\overline{\text{N}}$/R	I	Tape direction switch (S901) input terminal "L": forward side, "H": reverse side
15	$\overline{\text{TAPE-IN}}$	I	Tape in detection switch (S903) input terminal "L": tape in
16	$\overline{\text{FF-REW}}$	I	FF/REW detection switch (S902) input terminal "L": FF/REW mode
17	K1	I	Key matrix return signal input terminal Not used (fixed at "L")
18	K0	I	Key matrix return signal input for the frequency select switch (S1)
19	AMP-ON	O	Standby on/off signal output to the power amplifier (IC500) "L": standby, "H": amp on
20	SEEK	O	Seek control signal output terminal "H" active Not used
21	$\overline{\text{SEEK}}$	O	Seek control signal output to the FM/AM tuner unit (TU100) "L" active
22	LOCAL/$\overline{\text{DX}}$	O	Local/DX selection signal output to the FM/AM tuner unit (TU100) "L": DX, "H": local
23, 24	—	O	Not used (open)
25	T2	O	Key matrix scan signal output for the frequency select switch (S1)
26	T1	O	Key matrix scan signal output terminal Not used (open)
27	T0	O	
28	VOL-CE	O	Chip enable signal output to the electrical volume (IC450) "H" active
29	VOL-DI	O	Serial data output to the electrical volume (IC450) "H" active
30	VOL-CL	O	Serial data transfer clock signal output to the electrical volume (IC450)
31	VDD	—	Power supply terminal (+5V)
32	MUTE-REQ	I	Muting request signal input terminal ("H" active) "L": accessory on, "H": accessory off
33	$\overline{\text{BAND-KEY}}$	I	A MEM TUNER switch (S900) input terminal "L" is input when pressing the switch
34	$\overline{\text{PANEL-IN}}$	I	Detects the removal of the attaching and removing type front panel block "L": attaching Not used (connected to pin ㉜)
35	NC	I	Not used (fixed at "L")
36 to 40	—	O	Not used (open)
41	MUTE	O	Audio muting on/off control signal output terminal "H": muting on Not used (open)
42	—	O	Not used (open)
43	$\overline{\text{AMP-MUTE}}$	O	Amp muting on/off control signal output terminal "L": muting on Not used (open)
44	ANT-REM	O	Control signal output for the external power antenna and external amplifier "H" active
45 to 48	—	O	Not used (open)
49 to 51	KS2 to KS0	O	Key matrix scan signal output terminal
52	—	O	Not used (open)
53	LCD-CLK	O	Serial data transfer clock signal output to the liquid crystal display driver (IC900)

Pin No.	Pin Name	I/O	Description
54	LCD-CE	O	Chip enable signal output to the liquid crystal display driver (IC900) "H" active
55	LCD-DATA	O	Serial data output to the liquid crystal display driver (IC900) "H" active
56	AM-ON	O	AM system power supply on/off control signal output terminal "H": AM on
57	MONO	O	Not used (open)
58 to 60	—	O	Not used (open)
61	FM-ON	O	FM system power supply on/off control signal output terminal "H": FM on
62	TUNER-ON	O	Tuner system power supply on/off control signal output terminal "H": tuner on Not used (open)
63	$\overline{\text{MW}}$/LW	O	MW/LW selection signal output terminal "L": MW, "H": LW Not used (open)
64, 65	—	O	Not used (open)
66	NC	I	Not used (fixed at "L")
67	$\overline{\text{CE}}$	I	Accessory switch on/off detection signal input terminal "L": accessory off (hold mode), "H": accessory on
68	$\overline{\text{RESET}}$	I	System reset signal input terminal "L": reset
69	KEY-IN	I	Key matrix return signal input terminal (A/D input)
70	IFIN	I	FM and AM intermediate frequency detection signal input from the FM/AM tuner unit (TU100)
71	NC	I	Not used (fixed at "L")
72	$\overline{\text{BU-CHECK}}$	I	Battery detect signal input terminal
73	VDD	—	Power supply terminal (+5V)
74	FMIN	I	FM local oscillator input from the FM/AM tuner unit (TU100)
75	AMIN	I	AM local oscillator input from the FM/AM tuner unit (TU100)
76	VSS	—	Ground terminal
77	EO	O	Main charge-pump control signal output terminal
78	—	O	Not used (open)
79	TEST1	I	Connected to ground
80	XOUT	O	System clock output terminal (4.5 MHz)

SECTION 6
EXPLODED VIEWS

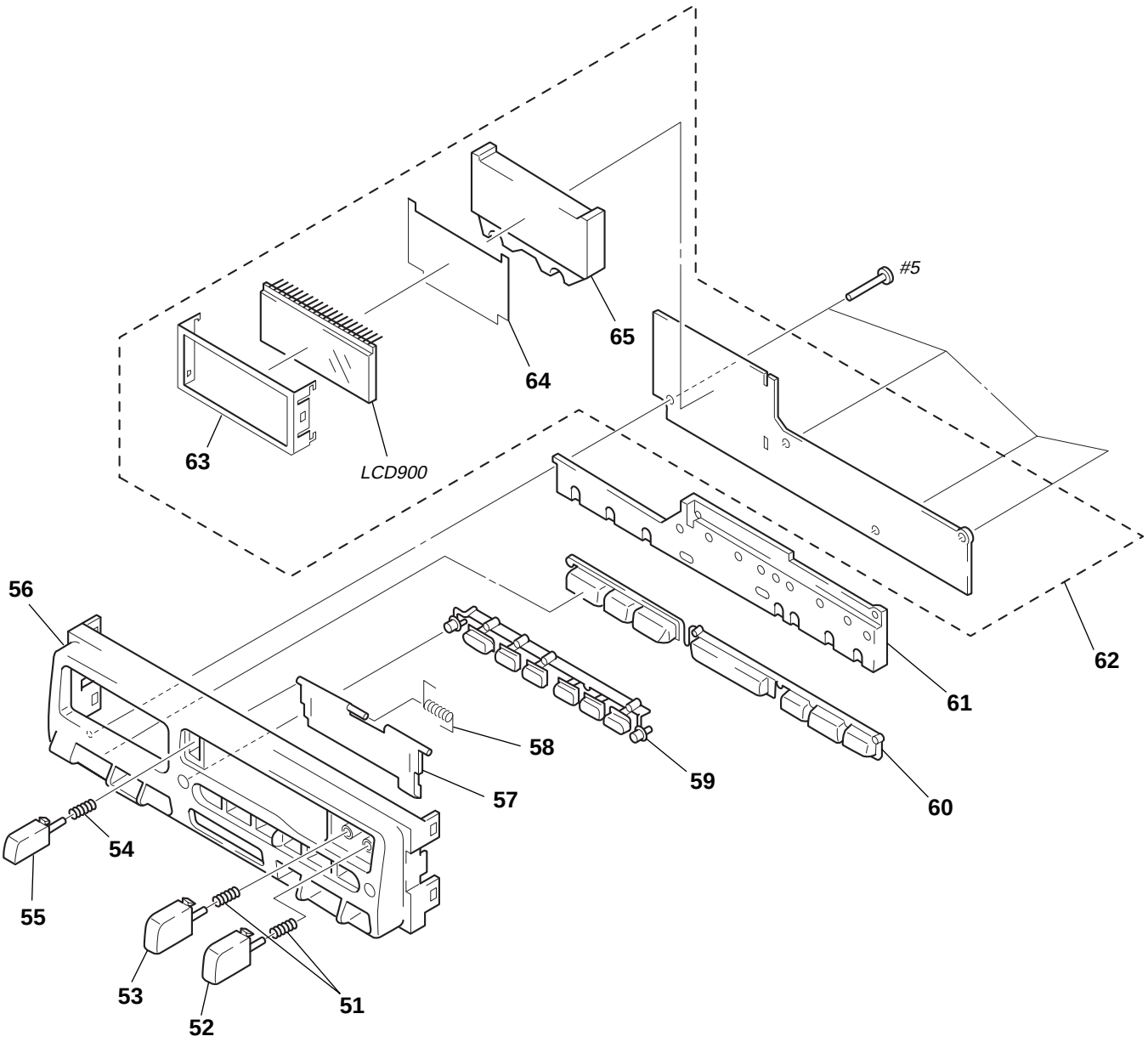
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) GENERAL SECTION



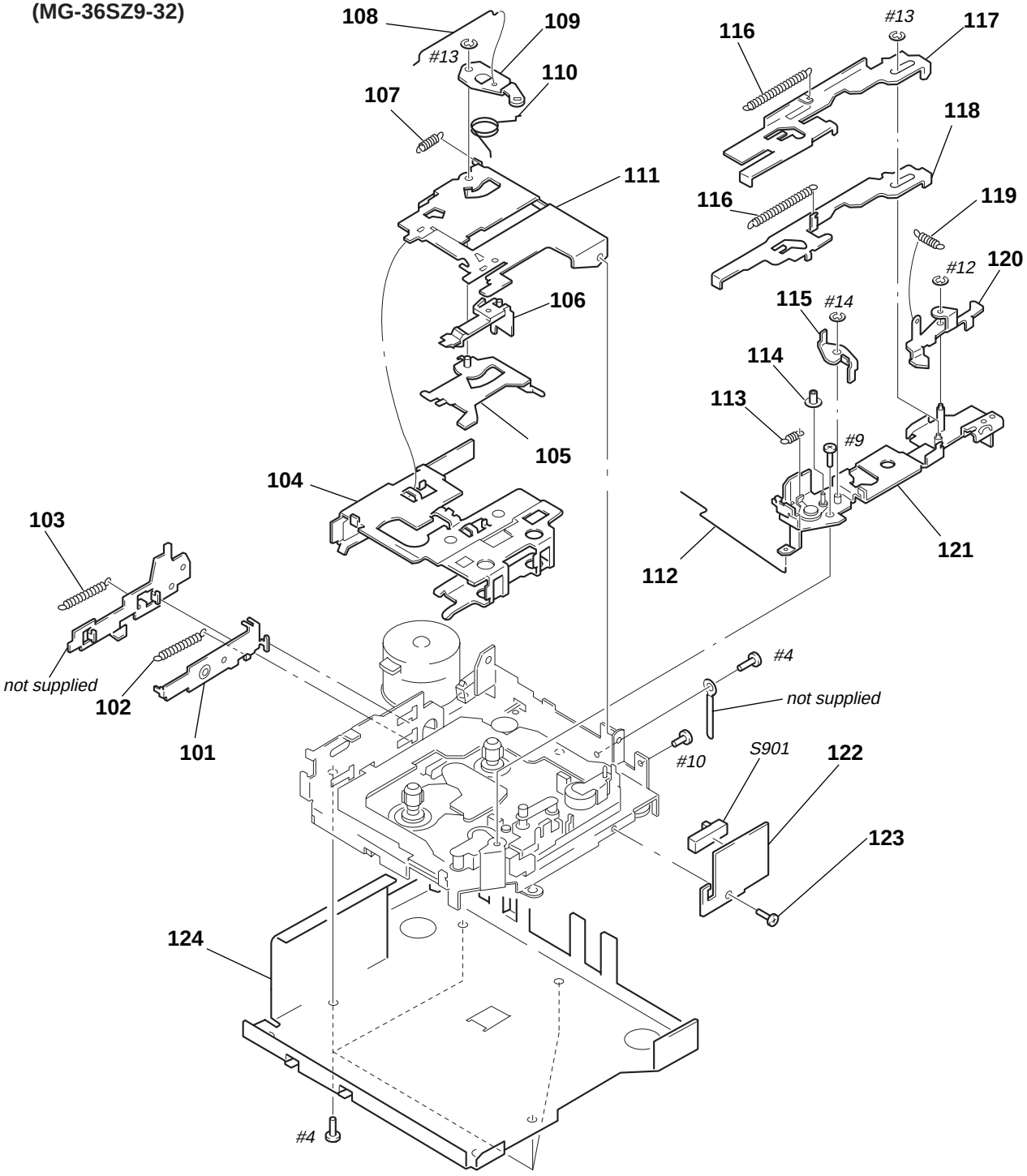
Ref. No.	Part No.	Description	Remark
* 1	3-031-237-01	STOPPER (LCD)	
* 2	3-031-238-01	PLATE, GROUND	
3	3-937-529-01	COVER (FF/REW)	
4	3-937-528-01	COVER (EJECT)	
5	3-915-923-01	SCREW, GROUND POINT	
6	3-029-047-01	PLATE (C), GROUND	
* 7	A-3317-741-A	MAIN BOARD, COMPLETE	
* 8	3-022-470-01	BRACKET (IC)	
* 9	3-022-477-01	HEAT SINK	
10	1-776-207-41	CORD (WITH CONNECTOR) (POWER)	
* 11	3-022-487-02	SHEET, INSULATING	
* 12	3-022-476-03	CHASSIS, MAIN	
* 13	3-022-472-01	COVER, TOP	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
TU100	A-3282-019-A	TUNER UNIT (TUX-008(EA))	

(2) FRONT PANEL SECTION



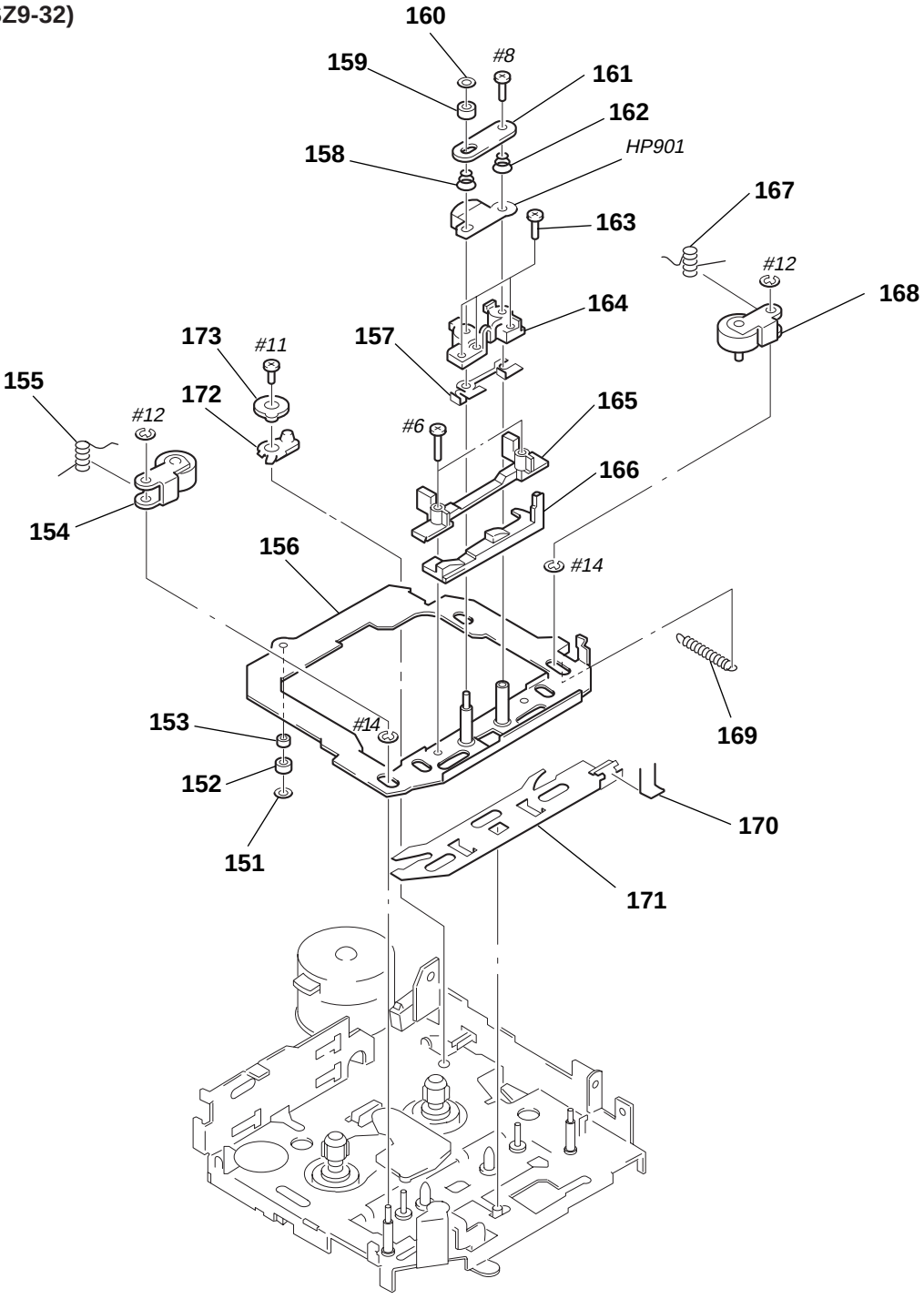
Ref. No.	Part No.	Description	Remark
51	3-375-372-01	SPRING (F/R)	
52	3-022-485-01	BUTTON (FF) (▶▶)	
53	3-022-486-01	BUTTON (REW) (◀◀)	
54	3-029-327-01	SPRING (EJECT)	
55	3-022-483-01	BUTTON (EJECT) (⏏)	
56	3-031-236-11	PANEL, FRONT	
57	3-924-404-01	DOOR, CASSETTE	
58	3-377-892-01	SPRING (C DOOR), TORSION	
59	3-022-481-01	BLOCK (B), BUTTON (DSPL. 1. 2. 3. 4. 5. 6. LCL)	
60	3-022-480-01	BLOCK (A), BUTTON (–. SEL. +. – SHEEK MANU +. LOUD. TUNER. OFF)	
* 61	3-022-478-01	PLATE, LIGHT GUIDE	
* 62	A-3294-698-A	CONTROL BOARD, COMPLETE	
* 63	3-022-471-01	PLATE (LCD), GROUND	
* 64	3-024-264-01	ILLUMINATOR	
* 65	3-022-482-01	PLATE (LCD), LIGHT GUIDE	
LCD900	1-803-137-41	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION-1 (MG-36SZ9-32)



Ref. No.	Part No.	Description	Remark
101	3-938-660-01	LEVER, EJECT	
102	3-392-950-01	SPRING	
103	3-392-951-01	SPRING	
104	3-375-384-01	HOLDER (X), CASSETTE	
* 105	3-392-921-01	LOCK ASSY, EJECT CAM	
106	3-392-972-01	HOOKER, TAPE	
107	3-392-953-01	SPRING	
108	3-392-969-01	LINK, RETURN	
* 109	3-392-932-01	PLATE, CENTER	
110	3-392-961-01	SPRING (B)	
111	3-375-383-01	HANGER (X), CASSETTE	
112	3-372-243-01	LINK (B), SELECTOR	
113	3-392-954-01	SPRING	
114	3-392-994-01	ROLLER, PROGRAM	
* 115	3-392-933-01	LEVER (B), CHANGE	
116	3-392-948-01	SPRING	
117	3-938-658-01	LEVER, FF	
118	3-938-659-01	LEVER, REW	
119	3-392-917-01	SPRING	
* 120	3-392-935-01	ARM, LOCK	
* 121	3-372-242-01	BRACKET ASSY (D), LEVER	
122	3-392-970-01	CHASSIS, SWITCH (DIRECTION SWITCH BOARD)	
* 123	4-908-792-11	SCREW (B2)	
* 124	3-022-479-01	BRACKET (MD)	
S901	1-692-502-11	SWITCH, SLIDE (DIRECTION)	

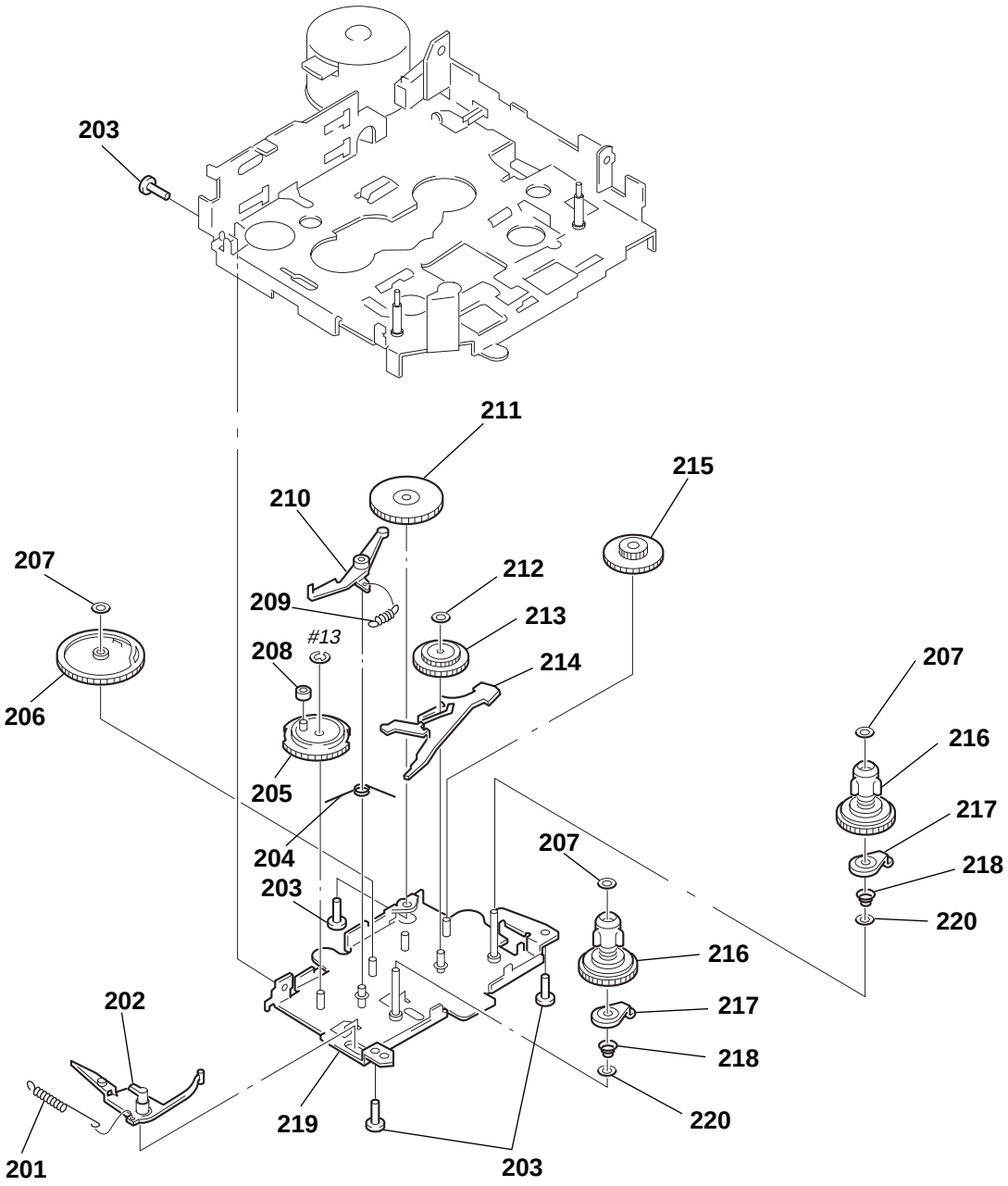
(4) MECHANISM DECK SECTION-2 (MG-36SZ9-32)



Ref. No.	Part No.	Description	Remark
151	3-570-615-02	POLY-WASHER (DIA. 1.2)	
152	3-392-945-01	ROLLER (A), H.P	
153	3-392-942-01	ROLLER (B), H.P	
154	3-375-378-01	ARM (R) ASSY, PINCH	
155	3-392-958-01	SPRING (R)	
* 156	3-392-975-05	PLATE ASSY (S), HEAD	
157	3-377-908-01	SHIM (X), ADJUSTOR	
158	3-392-956-01	SPRING (A)	
159	3-392-943-01	ROLLER, FF	
160	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
* 161	3-392-930-01	RETAINER, SPRING	
162	3-392-955-01	SPRING (A)	

Ref. No.	Part No.	Description	Remark
163	3-375-379-01	SCREW, AZIMUTH	
* 164	3-379-142-01	ARM (B), ADJUSTOR	
165	3-392-984-02	GUIDE, TAPE	
166	3-377-909-02	LINK (X), ADJUSTOR	
167	3-392-957-01	SPRING (F)	
168	3-375-377-01	ARM (F) ASSY, PINCH	
169	3-392-952-01	SPRING	
170	3-392-962-01	SPRING	
* 171	3-392-919-01	ARM ASSY, F.R SELECTION	
172	3-372-244-01	ARM (N), MUTE	
* 173	3-397-427-01	COLLAR, MUTE ARM	
HP901	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)	

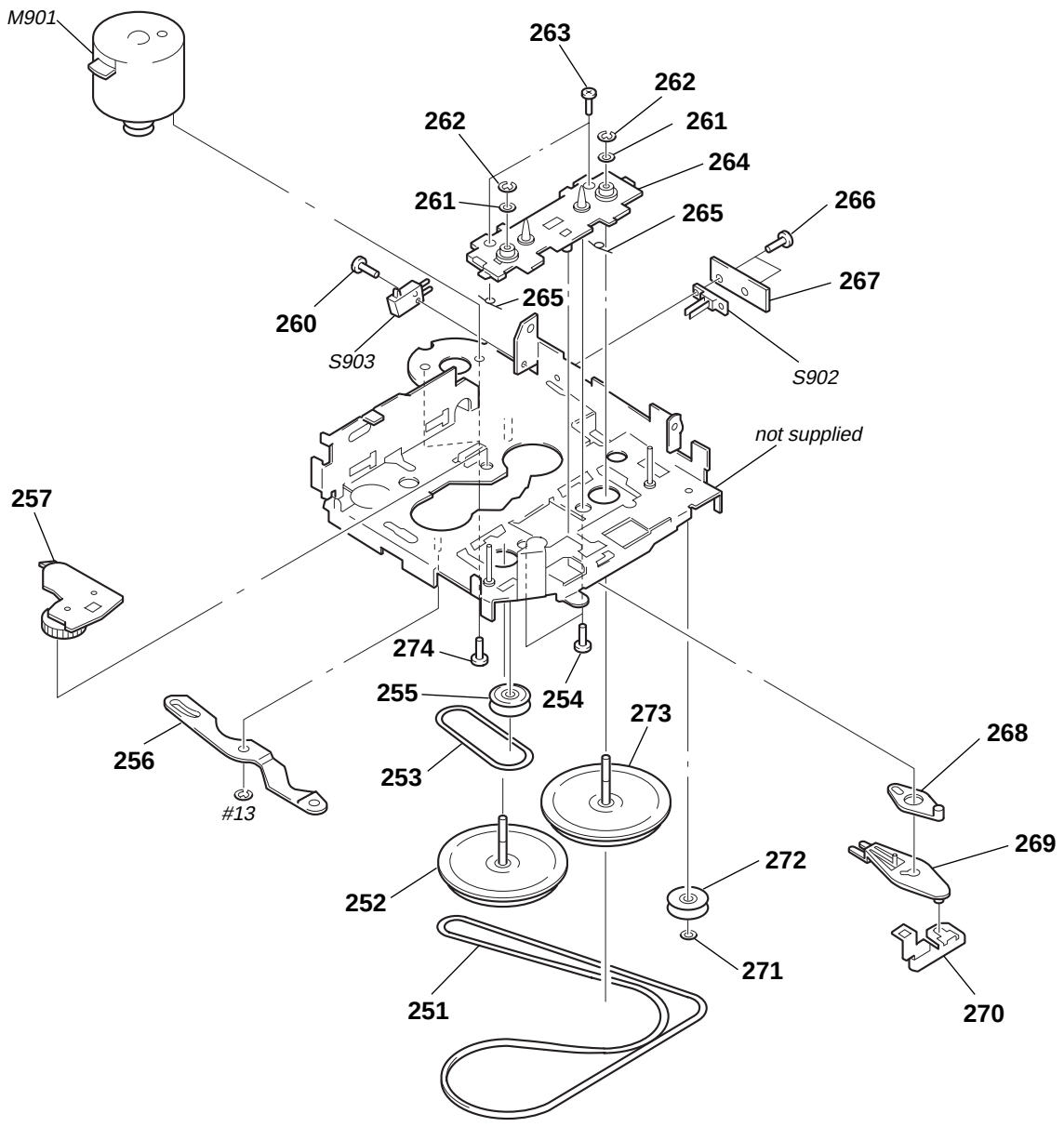
(5) MECHANISM DECK SECTION-3 (MG-36SZ9-32)



Ref. No.	Part No.	Description	Remark
201	3-392-959-01	SPRING	
202	3-392-985-02	RATCHET	
* 203	4-908-792-11	SCREW (B2)	
204	3-392-960-01	SPRING	
205	3-392-987-01	GEAR, SELECTOR	
206	3-392-990-01	GEAR, DETECTION	
207	3-676-387-00	POLY-SLIDER (DIA. 1.6)	
208	3-392-944-01	COLLAR (SELECTOR GEAR)	
209	3-375-131-01	SPRING, GEAR LOCK ARM	
210	3-392-989-02	ARM, GEAR LOCK	

Ref. No.	Part No.	Description	Remark
211	3-392-937-01	GEAR (B)	
212	3-570-615-02	POLY-WASHER (DIA. 1.2)	
213	3-392-915-01	GEAR, IDLE	
214	3-392-986-01	ARM, SENSOR	
215	3-392-936-01	GEAR (A)	
216	3-376-196-01	SPINDLE ASSY (S), REEL	
217	3-375-380-01	CAM ASSY, DETECTION	
218	3-370-619-01	SPRING, BACK TENSION	
* 219	3-392-976-01	BASE ASSY, REEL	
220	3-370-618-01	WASHER	

(6) MECHANISM DECK SECTION-4 (MG-36SZ9-32)



Ref. No.	Part No.	Description	Remark
251	3-392-967-01	BELT, MAIN	
252	3-392-995-02	FLYWHEEL ASSY (BR)	
253	3-375-375-02	BELT (C), SUB	
254	3-392-918-01	SCREW, EJECT HOOK	
255	3-392-938-01	GEAR, PULLEY	
* 256	3-392-979-01	LEVER, REVERSE	
257	3-392-916-01	ARM ASSY, TU GEAR	
260	3-318-203-11	SCREW (B1.7X6), TAPPING	
261	3-701-437-11	POLY-SLIDER (A)	
262	3-590-768-00	RING (A), E	
263	3-318-204-81	SCREW (M1.7X3), TAPPING	
* 264	3-375-381-01	BRACKET ASSY (X), CM	
265	3-392-963-01	SPRING (R)	
266	3-318-204-91	SCREW (M1.7X4), TAPPING	
267	3-375-376-01	MUTE (PWB) (MUTE SWITCH BOARD)	
* 268	3-392-925-01	ARM (A) ASSY, F.R	
* 269	3-392-939-01	ARM, FF	
* 270	3-392-934-01	ARM (B), F.R	
271	3-570-615-02	POLY-WASHER (DIA. 1.2)	
272	3-392-941-01	PULLEY (A), IDLE	
273	3-392-926-02	FLYWHEEL ASSY (BF)	
274	3-713-786-51	SCREW +P 2X3	
M901	X-3376-273-1	MOTOR ASSY (CAPSTAN/REEL)	
S902	1-692-065-11	SWITCH, LEAF (FF/REW)	
S903	1-554-790-21	SWITCH, POWER (TAPE DETECT)	

CONTROL **MAIN**

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3294-698-A	CONTROL BOARD, COMPLETE			
		**********			
*	3-022-471-01	PLATE (LCD), GROUND			
*	3-022-482-01	PLATE (LCD), LIGHT GUIDE			
*	3-024-264-01	ILLUMINATOR			
		< CAPACITOR >			
C900	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C901	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C902	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C903	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C904	1-164-005-11	CERAMIC CHIP	0.47uF		25V
		< CONNECTOR >			
CN906	1-764-422-11	PLUG, CONNECTOR 12P			
		< DIODE >			
D4	8-719-988-61	DIODE 1SS355TE-17			
D900	8-719-056-81	DIODE UDZ-TE-17-5.6B			
D901	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D902	8-719-056-82	DIODE UDZ-TE-17-6.2B			
D903	8-719-056-82	DIODE UDZ-TE-17-6.2B			
		< IC >			
IC900	8-759-544-59	IC LC75842M			
		< SHORT >			
JC136	1-216-296-00	SHORT	0		
JC137	1-216-295-00	SHORT	0		
JC901	1-216-296-00	SHORT	0		
JC902	1-216-296-00	SHORT	0		
JC903	1-216-296-00	SHORT	0		
JC904	1-216-296-00	SHORT	0		
JC905	1-216-296-00	SHORT	0		
JC906	1-216-296-00	SHORT	0		
JC907	1-216-296-00	SHORT	0		
JC908	1-216-296-00	SHORT	0		
JC909	1-216-296-00	SHORT	0		
JC910	1-216-296-00	SHORT	0		
JC913	1-216-295-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD900	1-803-137-41	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL900	1-517-534-11	LAMP, PILOT (GREEN) (LCD BACK LIGHT, ILLUMINATION)			
PL901	1-517-534-11	LAMP, PILOT (GREEN) (LCD BACK LIGHT, ILLUMINATION)			
PL902	1-517-534-11	LAMP, PILOT (GREEN) (ILLUMINATION)			
PL903	1-517-534-11	LAMP, PILOT (GREEN) (ILLUMINATION)			
		< RESISTOR >			
R900	1-216-091-00	METAL CHIP	56K	5%	1/10W
R901	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R902	1-208-795-11	RES, CHIP	3.6K	0.5%	1/10W
R903	1-208-795-11	RES, CHIP	3.6K	0.5%	1/10W
R904	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R905	1-208-787-11	RES, CHIP	1.6K	0.5%	1/10W
R906	1-216-097-00	RES, CHIP	100K	5%	1/10W
		< SWITCH >			
S900	1-771-484-11	SWITCH, TACTILE (TUNER, A MEM)			
S901	1-771-484-11	SWITCH, TACTILE (SEL)			
S902	1-771-484-11	SWITCH, TACTILE (+)			
S903	1-771-484-11	SWITCH, TACTILE (–)			
S904	1-771-484-11	SWITCH, TACTILE (DSPL)			
S905	1-771-484-11	SWITCH, TACTILE (–, SEEK MANU)			
S906	1-771-484-11	SWITCH, TACTILE (1, ATA)			
S907	1-771-484-11	SWITCH, TACTILE (2)			
S908	1-771-484-11	SWITCH, TACTILE (3)			
S909	1-771-484-11	SWITCH, TACTILE (4)			
S910	1-771-484-11	SWITCH, TACTILE (6)			
S911	1-771-484-11	SWITCH, TACTILE (LOUD)			
S912	1-771-484-11	SWITCH, TACTILE (5)			
S913	1-771-484-11	SWITCH, TACTILE (LCL)			
S914	1-771-484-11	SWITCH, TACTILE (OFF)			
S916	1-771-484-11	SWITCH, TACTILE (+, SEEK MANU)			
**********					
*	A-3317-741-A	MAIN BOARD, COMPLETE			
		**********			
*	3-022-470-01	BRACKET (IC)			
*	3-022-477-01	HEAT SINK			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C4	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C5	1-124-584-00	ELECT	100uF	20%	10V
C6	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C8	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C9	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C10	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C11	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C15	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C17	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C20	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C21	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C71	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C100	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C101	1-216-295-00	SHORT	0		
C102	1-163-220-11	CERAMIC CHIP	3PF	0.25PF	50V
C103	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C104	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C105	1-126-934-11	ELECT	220uF	20%	10V
C106	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C107	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C110	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C111	1-124-589-11	ELECT	47uF	20%	16V
C112	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C114	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C115	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C116	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C117	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C118	1-124-228-11	ELECT	22uF	20%	10V
C119	1-124-584-00	ELECT	100uF	20%	10V
C120	1-124-584-00	ELECT	100uF	20%	10V
C121	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C122	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C131	1-126-162-11	ELECT	3.3uF	20%	50V
C132	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C150	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C151	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C152	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C200	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C201	1-163-037-00	CERAMIC CHIP	0.022uF	10%	50V
C202	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C250	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C251	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C252	1-126-160-11	ELECT	1uF	20%	50V
C253	1-126-160-11	ELECT	1uF	20%	50V
C300	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C301	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C350	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C351	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C352	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C353	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C354	1-126-154-11	ELECT	47uF	20%	6.3V
C355	1-126-154-11	ELECT	47uF	20%	6.3V
C356	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C357	1-124-229-00	ELECT	33uF	20%	10V
C358	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C359	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C360	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C450	1-124-584-00	ELECT	100uF	20%	10V
C451	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C452	1-126-160-11	ELECT	1uF	20%	50V
C453	1-126-160-11	ELECT	1uF	20%	50V
C454	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C455	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C456	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V
C457	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V
C458	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C459	1-124-229-00	ELECT	33uF	20%	10V
C460	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C461	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C462	1-124-228-11	ELECT	22uF	20%	10V
C463	1-124-228-11	ELECT	22uF	20%	10V
C464	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C465	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C471	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C500	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C501	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C502	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C503	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C504	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C505	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C506	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C507	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C550	1-124-465-00	ELECT	0.47uF	20%	50V
C551	1-124-465-00	ELECT	0.47uF	20%	50V
C552	1-124-465-00	ELECT	0.47uF	20%	50V
C553	1-124-465-00	ELECT	0.47uF	20%	50V
C554	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C558	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C559	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C560	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C561	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C571	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C573	1-124-228-11	ELECT	22uF	20%	10V
C574	1-124-233-11	ELECT	10uF	20%	16V
C603	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C604	1-124-233-11	ELECT	10uF	20%	16V
C605	1-124-229-00	ELECT	33uF	20%	10V
C606	1-110-654-11	DOUBLE LAYER	0.047F		5.5V
C607	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C608	1-124-233-11	ELECT	10uF	20%	16V
C609	1-124-584-00	ELECT	100uF	20%	10V
C610	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C611	1-124-233-11	ELECT	10uF	20%	16V
C612	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C613	1-136-165-00	FILM	0.1uF	5%	50V
C614	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C615	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C616	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C617	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C618	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C620	1-126-937-11	ELECT	4700uF	20%	16V
C621	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C622	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C623	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C624	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C625	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
CN900	1-764-808-21	JACK (ANT) (FM/AM ANTENNA)			
* CN901	1-691-582-11	PIN, CONNECTOR (PC BOARD) 11P			
CN902	1-764-422-11	PLUG, CONNECTOR 12P			
CN903	1-774-701-11	PIN, CONNECTOR 16P (POWER)			
		< DIODE >			
D1	8-719-923-42	DIODE MTZJ-T-77-6.2B			
D2	8-719-991-33	DIODE 1SS133T-77			
D3	8-719-991-33	DIODE 1SS133T-77			
D12	8-719-991-33	DIODE 1SS133T-77			
D100	8-719-991-65	DIODE SB02W03C			
D350	8-719-200-82	DIODE 11ES2			
D351	8-719-991-33	DIODE 1SS133T-77			
D503	8-719-200-82	DIODE 11ES2			
D506	8-719-200-82	DIODE 11ES2			
D551	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D600	8-719-991-33	DIODE 1SS133T-77			
D601	8-719-991-33	DIODE 1SS133T-77			
D602	8-719-024-32	DIODE HZS6BLTD			
D603	8-719-048-54	DIODE MTZJ-T-77-10A			
D605	8-719-200-82	DIODE 11ES2			
D606	8-719-200-82	DIODE 11ES2			
D607	8-719-921-63	DIODE MTZJ-7.5B			
D608	8-719-991-33	DIODE 1SS133T-77			
D609	8-719-991-33	DIODE 1SS133T-77			
D610	8-719-923-96	DIODE MTZJ-T-77-18B			
D611	8-719-060-48	DIODE RB751V-40TE-17			
D620	8-719-049-38	DIODE 1N5404TU			
D621	8-719-991-33	DIODE 1SS133T-77			
D640	8-719-200-82	DIODE 11ES2			
		< DISCHARGE GAP >			
DSP100	1-519-504-11	GAP, DISCHARGE			
		< IC >			
IC1	8-759-537-14	IC LC72322N-9412			
IC350	8-759-924-46	IC BA4560F			
IC450	8-759-368-11	IC LC75372E			
IC500	8-759-578-83	IC HA13158A			
		< SHORT/CAPACITOR >			
JC1	1-216-295-00	SHORT 0			
JC35	1-216-296-00	SHORT 0			
JC56	1-216-296-00	SHORT 0			
JC57	1-216-296-00	SHORT 0			
JC58	1-216-296-00	SHORT 0			
JC59	1-16-295-00	SHORT 0			
JC61	1-216-295-00	SHORT 0			
JC102	1-216-295-00	SHORT 0			
JC104	1-216-295-00	SHORT 0			
JC112	1-216-296-00	SHORT 0			
JC113	1-216-296-00	SHORT 0			
JC114	1-216-296-00	SHORT 0			
JC116	1-216-296-00	SHORT 0			
JC118	1-216-296-00	SHORT 0			
JC119	1-216-295-00	SHORT 0			
JC120	1-216-296-00	SHORT 0			
JC122	1-216-296-00	SHORT 0			
JC125	1-216-296-00	SHORT 0			
JC126	1-216-296-00	SHORT 0			
JC127	1-216-296-00	SHORT 0			
JC129	1-216-295-00	SHORT 0			
JC130	1-216-296-00	SHORT 0			
JC131	1-216-296-00	SHORT 0			
JC132	1-216-296-00	SHORT 0			
JC133	1-216-296-00	SHORT 0			
JC138	1-216-296-00	SHORT 0			
JC139	1-216-296-00	SHORT 0			
JC140	1-216-296-00	SHORT 0			
JC191	1-216-296-00	SHORT 0			
JC192	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
JC193	1-216-295-00	SHORT 0			
JC195	1-216-295-00	SHORT 0			
JC196	1-216-296-00	SHORT 0			
JC197	1-216-296-00	SHORT 0			
JC198	1-216-295-00	SHORT 0			
JC302	1-216-296-00	SHORT 0			
JC303	1-216-296-00	SHORT 0			
JC306	1-216-296-00	SHORT 0			
JC307	1-216-296-00	SHORT 0			
JC452	1-216-295-00	SHORT 0			
JC453	1-216-295-00	SHORT 0			
JC454	1-216-295-00	SHORT 0			
JC455	1-216-295-00	SHORT 0			
		< COIL >			
JW144	1-410-509-61	INDUCTOR 10uH			
L1	1-410-513-11	INDUCTOR 22uH			
L600	1-411-669-21	CHOKE COIL			
		< TRANSISTOR >			
Q10	8-729-205-95	TRANSISTOR 2SA1428-Y			
Q30	1-801-806-11	TRANSISTOR DTC144EK-T146			
Q31	1-801-806-11	TRANSISTOR DTC144EK-T146			
Q32	1-801-806-11	TRANSISTOR DTC144EK-T146			
Q60	8-729-027-44	TRANSISTOR DTC114TKA-T146			
Q100	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q101	8-729-107-43	TRANSISTOR 2SC3624-L18			
Q102	8-729-901-98	TRANSISTOR 2SA1036K-R			
Q103	8-729-027-52	TRANSISTOR DTC124EKA-T146			
Q104	8-729-901-98	TRANSISTOR 2SA1036K-R			
Q105	8-729-027-52	TRANSISTOR DTC124EKA-T146			
Q106	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q350	8-729-205-95	TRANSISTOR 2SA1428-Y			
Q351	8-729-900-53	TRANSISTOR DTC114EK			
Q553	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q554	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q600	8-729-205-96	TRANSISTOR 2SC3668			
Q601	8-729-921-48	TRANSISTOR 2SD1760F5-TRPQR			
Q602	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q604	8-729-900-53	TRANSISTOR DTC114EK			

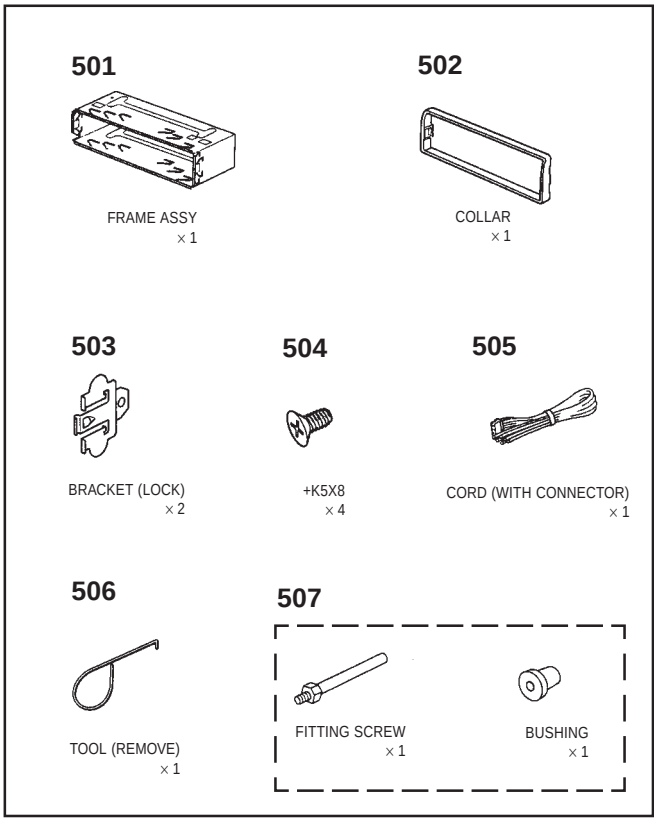
Ref. No.	Part No.	Description			Remark
Q605	8-729-205-95	TRANSISTOR	2SA1428-Y		
Q606	8-729-026-49	TRANSISTOR	2SA1037AK-T146-R		
Q608	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q610	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q611	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q612	8-729-027-38	TRANSISTOR	DTA144EKA-T146		
		< RESISTOR/CAPACITOR >			
R2	1-216-097-00	RES, CHIP	100K	5%	1/10W
R3	1-216-073-00	METAL CHIP	10K	5%	1/10W
R4	1-216-081-00	METAL CHIP	22K	5%	1/10W
R5	1-216-073-00	METAL CHIP	10K	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-216-262-00	RES, CHIP	470K	5%	1/8W
R8	1-249-417-11	CARBON	1K	5%	1/4W
R9	1-249-417-11	CARBON	1K	5%	1/4W
R10	1-216-097-00	RES, CHIP	100K	5%	1/10W
R11	1-216-097-00	RES, CHIP	100K	5%	1/10W
R12	1-216-097-00	RES, CHIP	100K	5%	1/10W
R13	1-216-085-00	METAL CHIP	33K	5%	1/10W
R14	1-216-085-00	METAL CHIP	33K	5%	1/10W
R16	1-249-417-11	CARBON	1K	5%	1/4W
R17	1-216-049-11	RES, CHIP	1K	5%	1/10W
R18	1-216-049-11	RES, CHIP	1K	5%	1/10W
R19	1-216-049-11	RES, CHIP	1K	5%	1/10W
R20	1-216-049-11	RES, CHIP	1K	5%	1/10W
R22	1-216-097-00	RES, CHIP	100K	5%	1/10W
R25	1-249-417-11	CARBON	1K	5%	1/4W
R26	1-216-049-11	RES, CHIP	1K	5%	1/10W
R27	1-216-049-11	RES, CHIP	1K	5%	1/10W
R28	1-216-049-11	RES, CHIP	1K	5%	1/10W
R29	1-249-417-11	CARBON	1K	5%	1/4W
R30	1-249-417-11	CARBON	1K	5%	1/4W
R31	1-249-417-11	CARBON	1K	5%	1/4W
R32	1-216-049-11	RES, CHIP	1K	5%	1/10W
R33	1-216-049-11	RES, CHIP	1K	5%	1/10W
R35	1-216-097-00	RES, CHIP	100K	5%	1/10W
R36	1-208-806-11	RES, CHIP	10K	0.5%	1/10W
R37	1-216-262-00	RES, CHIP	470K	5%	1/8W
R38	1-216-049-11	RES, CHIP	1K	5%	1/10W
R39	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R41	1-249-417-11	CARBON	1K	5%	1/4W
R42	1-216-037-00	METAL CHIP	330	5%	1/10W
R44	1-216-295-00	SHORT	0		
R75	1-216-049-11	RES, CHIP	1K	5%	1/10W
R76	1-216-049-11	RES, CHIP	1K	5%	1/10W
R77	1-216-049-11	RES, CHIP	1K	5%	1/10W
R78	1-216-049-11	RES, CHIP	1K	5%	1/10W
R79	1-216-045-00	METAL CHIP	680	5%	1/10W
R103	1-216-001-00	METAL CHIP	10	5%	1/10W
R104	1-216-049-11	RES, CHIP	1K	5%	1/10W
R106	1-216-041-11	METAL CHIP	470	5%	1/10W
R107	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R108	1-216-049-11	RES, CHIP	1K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-198-00	RES, CHIP	1K	5%	1/8W
R111	1-216-142-00	RES, CHIP	4.7	5%	1/8W
R112	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R115	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-029-00	METAL CHIP	150	5%	1/10W
R118	1-216-295-00	SHORT	0		
R119	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
R120	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R200	1-216-073-00	METAL CHIP	10K	5%	1/10W
R201	1-216-081-00	METAL CHIP	22K	5%	1/10W
R250	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R251	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R252	1-216-073-00	METAL CHIP	10K	5%	1/10W
R253	1-216-073-00	METAL CHIP	10K	5%	1/10W
R350	1-216-097-00	RES, CHIP	100K	5%	1/10W
R351	1-216-073-00	METAL CHIP	10K	5%	1/10W
R352	1-216-089-00	RES, CHIP	47K	5%	1/10W
R353	1-216-089-00	RES, CHIP	47K	5%	1/10W
R354	1-216-015-00	METAL CHIP	39	5%	1/10W
R355	1-216-015-00	METAL CHIP	39	5%	1/10W
R356	1-216-077-00	METAL CHIP	15K	5%	1/10W
R357	1-216-077-00	METAL CHIP	15K	5%	1/10W
R358	1-216-115-00	METAL CHIP	560K	5%	1/10W
R359	1-216-115-00	METAL CHIP	560K	5%	1/10W
R360	1-216-049-11	METAL CHIP	1K	5%	1/10W
R361	1-216-097-00	RES, CHIP	100K	5%	1/10W
R362	1-247-807-31	CARBON	100	5%	1/4W
R370	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R371	1-216-049-11	METAL CHIP	1K	5%	1/10W
R451	1-216-081-00	METAL CHIP	22K	5%	1/10W
R452	1-216-081-00	METAL CHIP	22K	5%	1/10W
R453	1-249-393-11	CARBON	10	5%	1/4W
R551	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R552	1-216-073-00	METAL CHIP	10K	5%	1/10W
R553	1-216-073-00	METAL CHIP	10K	5%	1/10W
R554	1-216-073-00	METAL CHIP	10K	5%	1/10W
R555	1-216-073-00	METAL CHIP	10K	5%	1/10W
R556	1-216-041-11	METAL CHIP	470	5%	1/10W
R557	1-216-041-11	METAL CHIP	470	5%	1/10W
R558	1-216-041-11	METAL CHIP	470	5%	1/10W
R559	1-216-041-11	METAL CHIP	470	5%	1/10W
R560	1-216-073-00	METAL CHIP	10K	5%	1/10W
R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R562	1-216-097-00	RES, CHIP	100K	5%	1/10W
R563	1-216-113-00	METAL CHIP	470K	5%	1/10W
R565	1-216-105-00	RES, CHIP	220K	5%	1/10W
R570	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R571	1-216-073-00	METAL CHIP	10K	5%	1/10W
R572	1-216-049-11	RES, CHIP	1K	5%	1/10W
R573	1-216-121-00	RES, CHIP	1M	5%	1/10W
R574	1-216-093-91	RES, CHIP	68K	5%	1/10W
R582	1-216-073-00	METAL CHIP	10K	5%	1/10W
R583	1-216-073-00	METAL CHIP	10K	5%	1/10W
R584	1-216-077-00	METAL CHIP	15K	5%	1/10W
R585	1-216-077-00	METAL CHIP	15K	5%	1/10W
R586	1-216-077-00	METAL CHIP	15K	5%	1/10W
R587	1-216-077-00	METAL CHIP	15K	5%	1/10W
R588	1-216-129-00	METAL CHIP	2.2M	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R589	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R590	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R591	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R600	1-216-073-00	METAL CHIP	10K	5%	1/10W
R601	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R602	1-216-085-00	METAL CHIP	33K	5%	1/10W
R603	1-216-081-00	METAL CHIP	22K	5%	1/10W
R604	1-216-081-00	METAL CHIP	22K	5%	1/10W
R605	1-216-037-00	METAL CHIP	330	5%	1/10W
R606	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R607	1-249-413-11	CARBON	470	5%	1/4W
R608	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R609	1-216-073-00	METAL CHIP	10K	5%	1/10W
R610	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R612	1-216-097-00	RES, CHIP	100K	5%	1/10W
R614	1-216-089-00	RES, CHIP	47K	5%	1/10W
R615	1-216-081-00	METAL CHIP	22K	5%	1/10W
R616	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R617	1-249-425-11	CARBON	4.7K	5%	1/4W
R619	1-216-081-00	METAL CHIP	22K	5%	1/10W
R620	1-216-081-00	METAL CHIP	22K	5%	1/10W
R630	1-249-767-11	CARBON	2.2	5%	1/4W
R631	1-249-767-11	CARBON	2.2	5%	1/4W
R632	1-249-767-11	CARBON	2.2	5%	1/4W
R633	1-249-767-11	CARBON	2.2	5%	1/4W
R634	1-249-478-11	CARBON	2.2	5%	1/2W F
R635	1-249-478-11	CARBON	2.2	5%	1/2W F
R636	1-216-073-00	METAL CHIP	10K	5%	1/10W
R907	1-216-296-00	SHORT	0		
		< SWITCH >			
S1	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)			
		< TUNER >			
TU100	A-3282-019-A	FM/AM TUNER UNIT (TUX-008 (EA))			
		< VIBRATOR >			
X1	1-781-049-11	VIBRATOR, CRYSTAL (4.5MHz)			
**********					
		MISCELLANEOUS			
		**********			
10	1-776-207-41	CORD (WITH CONNECTOR) (POWER)			
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)			
HP901	1-543-717-11	HEAD, MAGNETIC (PLAYBACK)			
M901	X-3376-273-1	MOTOR ASSY (CAPSTAN/REEL)			
S901	1-692-502-11	SWITCH, SLIDE (DIRECTION)			
S902	1-692-065-11	SWITCH, LEAF (FF/REW)			
S903	1-554-790-21	SWITCH, POWER (TAPE DETECT)			
**********					
		**********			
		HARDWARE LIST			
		**********			
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)			
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)			
#4	7-685-790-01	SCREW +PTT 2.6X4 (S)			
#5	7-685-105-19	TPG +P 2X8, TYPE 2, NON-SLIT			

Ref. No.	Part No.	Description	Remark
#6	7-627-553-88	SCREW, PRECISION +P 2X7	
#8	7-621-772-10	SCREW +P 2X4	
#9	7-685-781-09	SCREW +PTT 2X4 (S)	
#10	7-621-555-10	SCREW +K 2X3	
#11	7-621-591-00	SCREW +K 2X4	
#12	7-624-102-04	STOP RING 1.5, TYPE -E	
#13	7-624-104-04	STOP RING 2.0, TYPE -E	
#14	7-624-118-01	RING, RETAINING E-2.5	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-866-437-11	MANUAL, INSTRUCTION (ENGLISH, ARABIC)	
	3-866-437-21	MANUAL, INSTRUCTION (ENGLISH, PERSIAN)	
	3-866-438-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, ARABIC)	
	3-866-438-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH, PERSIAN)	
**********			

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	X-3373-605-1	FRAME ASSY	
502	3-012-601-01	COLLAR (B)	
503	3-032-993-01	BRACKET (LOCK)	
504	3-934-325-01	SCREW, +K (5X8) TAPPING	
505	1-776-207-41	CORD (WITH CONNECTOR) (POWER)	
506	3-702-658-01	TOOL (REMOVE)	
507	X-3366-405-1	SCREW ASSY (EXP), FITTING	



Sony Corporation
Personal & Mobile Communication Company

9-926-492-11

99D0525-1
Printed in Japan © 1999. 4
Published by Quality Assurance Dept.